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HELMINTHOLOGICAL ABSTRACTS

incorporating

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HELMINTHOLOGICAL ABSTRACTS *incorporating* BIBLIOGRAPHY OF HELMINTHOLOGY

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HELMINTHOLOGICAL ABSTRACTS

INCORPORATING BIBLIOGRAPHY OF HELMINTHOLOGY

FOR THE YEAR 1954

Vol. 23, Part 6

757—Abhandlungen der Braunschweigischen Wissenschaftlichen Gesellschaft.

- a. MEYL, A. H., 1954.—“Die Fadenwürmer (Nematoda) einiger Salzstellen südöstlich von Braunschweig.” 6, 84-106. [English summary p. 84.]

(757a) Meyl has studied the nematodes of four inland salt habitats near Braunschweig and discusses the specific composition of these nematode populations. He describes the new forms *Monhystera paramacramphus* n.sp., *M. filiformis* var. *salina* n. var., *Dorylaimus parasubulatus* n.sp., *Diplolaimelloides altherri* n.g., n.sp. and *D. oschei* n.sp., and the females of *Deontolaimus papillatus*. *Diplolaimelloides* n.g. (*Diplolaimella* pro parte) with the type *Diplolaimelloides islandica* n.comb., is distinguished from *Diplolaimella* by the globular part of the stoma with teeth-like structures and, in the male, the moderately large but always distinct bursa which is supported by rays. G.I.P.

758—Acta Paediatrica. Supplementum.

- a. DE SILVA, C. C., 1954.—“Ascariasis in the tropics.” 43 (100), 557-574.

(758a) In this detailed account of ascariasis in children in Asia, De Silva records, from a personal communication, that Professor Paul does not now incise the gut in cases of obstruction but uses manipulation to move the roundworms past the ileocaecal valve. Whereas all of his three cases died after incision only one in five died after manipulation. M.MCK.

759—Agricoltura Sarda.

- *a. GIUA, M., 1954.—[Echinococcosis prophylaxis.] 31, 109-112. [In Italian.]

760—Agronomie Tropicale. Nogent.

- a. BOURIQUET, G., 1954.—“L'étude des nématodes nuisibles aux plantes cultivées dans les territoires français d'outre-mer.” 9 (1), 84.

(760a) It is recommended that attention be given to nematode diseases of crops in French overseas territories. A few preliminary samples examined from Madagascar have shown *Meloidogyne javanica* in the roots of peach and tobacco and *M. incognita* in tomato roots. Cacao buds and from the Cameroons had only saprophytic species. M.T.F.

761—Akusherstvo i Ginekologiya. Moscow.

- a. TSVEI, S. M., 1954.—[Bilateral sactosalpinx with *Enterobius vermicularis*.] Year 1954, No. 4, pp. 69-70. [In Russian.]

762—Almanaque del Ministerio de Agricultura y Ganadería. Buenos Aires.

- a. FRONTINI, C. A., 1954.—“Distomatosis hepática ‘saguaype’. Su evolución y tratamiento.” 28/29, 149-152.

*Titles so marked throughout this number have not been seen in the original.

763—American Journal of Gastroenterology. [Cont. of Review of Gastroenterology. New York.]

- a. PROPATORIDIS, J., 1954.—“The rupture of the echinococcus cyst of the liver into the bile ducts.” **21** (3), 219–229.

764—Anales de la Real Academia Nacional de Medicina. Madrid.

- a. FRAGA y AZEVEDO, J., 1954.—“Importancia de las bilharziosis humanas en Africa. Dificultades y perspectivas actuales de su profilaxia.” **71** (1), 117–173.

(764a) In this comprehensive review of schistosomiasis in man in Africa, Fraga y Azevedo recalls the pathology, some aspects of incidence and the body locations and clinical manifestations of infections. He quotes studies which have directly implicated or strongly suggested the disease as an agent which reduces intelligence, working efficiency, fertility and physical development and produces lethargy and increased morbidity among populations. He cites Pinto Ribeiro's observation of congenital infections. After discussing the difficulties of eradicating the disease the author describes the control measures being undertaken in Egypt, Southern Rhodesia, South Africa and Mozambique. The biology and classification of snails will have to be understood before snail control can be effective. M.MCK.

765—Annali della Facoltà di Agraria. Università Cattolica del Sacro Cuore, Milan.

- *a. ORSENIGO, M., 1954.—[Susceptibility of Italian varieties of rice to ‘white-tip’ disease.] **1**, 1–7. [In Italian: English summary.]

766—Archiv der Pharmazie.

- a. ROSENMUND, K. W., GLET, E. & POHL, F., 1954.—“Synthesen in der Reihe der Anthelmintika. II. Mitteilung.” **287** (8), 441–448.

(766a) Rosenmund *et al.* continue their study of synthetic anthelmintics with a report on a long series of experiments with hydro-aromatic lactones. A.E.F.

767—Archives. Institut Grand-Ducal de Luxembourg. Section des Sciences Naturelles, Physiques et Mathématiques.

- a. HOFFMANN, J., 1954.—“L'acanthocéphalose des truites de la Syre. (Quelques contributions à l'étude des spécificités de l'*Echinorhynchus truttae* Schrank (Lühe 1911)).” **21**, 81–98.

(767a) A sudden and large decrease in the population of trout in the Syre (a tributary of the Moselle) between Munsbach and Roodt was traced to infections with *Echinorhynchus truttae*. Gammarids were found to be the only animals able to transmit *E. truttae* in this stream, and an examination of the food fauna of this stream showed that infection was serious in those sections where gammarids constituted almost the only food of the fish. Hoffmann tabulates the stomach and intestinal contents, numbers of worms and state of the intestine in fish in different lengths of the stream. It appeared that the intestine begins to suffer when the number of echinorhynchids exceeds 100. When gammarids were fed for eight days with *E. truttae* and then offered to *Trutta fario*, *T. iridea*, *Phoxinus laevis*, *Squalius cephalus*, *Leuciscus leuciscus*, *L. rutilus*, *Perca fluviatilis* and *Cottus gobio*, only the salmonids acquired infection. *T. iridea* which were fed for some days on the gut of infected trout remained uninfected. In a detailed description of *E. truttae* Hoffmann notes the location of the nerve ganglion, which is far forward in the extended proboscis and drawn towards the anterior tip in the unextended proboscis. M.MCK.

768—Archives d'Ophthalmologie.

- a. TOULANT, P. & BOITHIAS, R., 1954.—“Les lésions du fond d'oeil dans l'onchocercose.” **14** (6), 567–583.

769—Archives of Surgery. Chicago.

- a. LEWIS, Jr., J. E. & HURWITZ, A., 1954.—“Pulmonary echinococcus cyst. Report of a case.” **69** (5), 746–751.

770—Archivos Uruguayos de Medicina, Cirugía y Especialidades.

- a. OSIMANI, J. J. & PEYRALLO, R., 1954.—“Segundo caso de esparganosis encontrado en América del Sur: primer caso descrito en el Uruguay.” **44** (3/4), 139–147. [English summary pp. 146–147.]
- b. SAPRIZA, J. P., RIMINI, R., DUOMARCO, J. L. & SURRACO, G. H., 1954.—“Dos casos de quiste hidático de la aurícula derecha. Diagnóstico angiocardiógráfico. Cura quirúrgica.” **44** (3/4), 148–156. [English summary p. 154.]
- c. TÁLICE, R. V. & PÉREZ-MOREIRA, L., 1954.—“Un caso de localización de *Taenia saginata* en la vesícula biliar.” **44** (5/6), 261–269. [English summary p. 269.]

771—Arquivos de Neuro-Psiquiatria. São Paulo.

- a. BARINI, O., 1954.—“Cisticerco macrocístico intramedular. Extirpação cirúrgica.” **12** (3), 264–266. [English summary p. 266.]
- b. PUPO, P. P. & REIS, J. B. dos, 1954.—“Evolução favorável de um caso de cisticercose cerebral observado durante 10 anos.” **12** (3), 267–271. [English summary p. 271.]

772—Auburn Veterinarian. Alabama.

- *a. HOUYEY, E. E., 1954.—“The public health importance of animal ascarids.” **10** (3), 148–152.
- *b. HAYES, F. A., 1954.—“Parasitism in the chinchilla.” **10** (3), 169–172, 190.
- *c. SCHWABE, C. W., 1954.—“Screening of ferric ammonium citrate as a trichuricide in dogs.” **10** (3), 188–190.

773—Australian Journal of Dermatology.

- a. LOEWENTHAL, L. J. A., 1954.—“Evaluation of therapy in creeping eruption.” **2** (4), 171–178.

(773a) From a study of creeping eruption in 40 patients Loewenthal concludes that the spontaneous cure following the natural death of the larvae vitiates the claims to success made by various authors for a variety of treatments. R.T.L.

774—Bibliotheca Paediatrica. Supplement to Annales Paediatrici. Basle.

- a. BAER, J. G., 1954.—“Actualités helminthologiques.” No. 58, pp. 503–508. [English & German summaries p. 508.]

775—Biological Studies. Catholic University of America.

- a. TIMM, R. W., 1954.—“A survey of the marine nematodes of Chesapeake Bay, Maryland.” No. 23, 70 pp.

(775a) Timm records 36 new species and two new genera among the free-living nematodes he reports from Chesapeake Bay, Maryland. *Parachromadora* n.g. [but this name is preoccupied] of the Chromadorinae is represented by *P. parva* n.sp., and is characterized by light, block punctations on the cuticle which are not interrupted laterally; by four cephalic setae, transverse amphids, three nearly equal sclerotized teeth in the mouth, a well developed oesophageal bulb, two reflexed ovaries and a small tubular curved supplement in the male which is immediately pre-anal and additional to the regular chromadorid supplements. *Pseudometachromadora* n.g. of the Monoposthiinae is created for *Metachromadora longilaima* and *M. papillata*. Besides having no oesophageal bulb, these species differ from *Metachromadora* in lacking longitudinal striations on the head, and from *Neonyx* in that the mouth has a straight wall opposite the dorsal tooth. The other new nematodes are: *Ironella cobbi* n.sp., *Halalaimus alatus* n.sp., *H. scleratus* n.sp., *Anoplostoma demani* n.sp., *Eurystomina paralittorale* n.sp., *Polygastrophora heptabulba* n.sp., *Dorylaimus aestuarii* n.sp.,

Chromadorita crassa n.sp., *C. schuurmans-stekhoveni* n.sp., *Parachromadorella chitwoodi* n.sp., *Spilophorella paradoxoides* n.sp., *Halichoanolaïmus duodecimpapillatus* n.sp., *Bathylaimus paraflilicaudatus* n.sp., *Micromicron luticola* n.sp., *Monoposthia ornata* n.sp., *Metachromadora parasitifera* n.sp., *Axonclaiumus steineri* n.sp., *A. filipjevi* n.sp., *Odontophora setosoides* n.sp., *O. axonolaimoides* n.sp., *Pseudolella cobbi* n.sp., *P. brevamphida* n.sp., *P. paragranulifera* n.sp., *Dorylaimopsis metatypicus* var. *brevisetosus* n.var., *Sabatieria americana* n.sp., *Diplolaimella punicea* n.sp., *D. allgeni* var. *ophthalmophora* n.var., *D. schneideri* n.sp., *Monhystera denticulata* n.sp., *M. chesapeakeensis* n.sp., *M. microphthalmia* var. *caeca* n.var., *Theristus paranormandicus* n.sp., *T. marylandicus* n.sp., *T. parambronensis* n.sp., *T. parvulus* n.sp., *T. biarcospiculum* n.sp., *T. paraelaboratus* n.sp., *Eumorpholaimus chesapeakeensis* n.sp. and *Paralinhomoeus paraconicaudatus* n.sp. Keys are given to the species of *Metachromadora* and *Pseudolella*. M.MCK.

776—Biologisch Jaarboek.

- a. GOVAERT, J., 1954.—“La teneur en acide désoxyribonucléique des noyaux des éléments de la lignée spermatique chez *Fasciola hepatica*.” 21, 202–209.

777—Boletim. Directoria da Produção Animal. Rio Grande do Sul, Brazil.

- *a. CORRÊA, O., 1954.—[The use of metoquine in the treatment of *Moniezia* infestation in lambs.] 10 (19), 14–17. [In Portuguese.]
 *b. TONDO, C. V. & CORRÊA, O., 1954.—[Study by spectrophotometry and electrophoresis of the proteins extracted from *Ascaris lumbricoides* of swine origin.] 10 (20), 26–29. [In Portuguese.]

778—Boletim do Instituto Oceanográfico. São Paulo.

- a. GERLACH, S. A., 1954.—“Brasilianische Meeres-Nematoden. 1. (Ergebnisse eines Studienaufenthaltes an der Universität São Paulo).” 5 (1/2), 3–69.

(778a) The marine eelworms which Gerlach reports from the coast of São Paulo, Brazil, include a new genus *Conilia*, represented by *C. divina* n.sp. and belonging to the Ironidae. It has a cephalic structure resembling that of *Thalassironus*, *Parironus* and *Ironella*. The four long and six short cephalic setae form a single ring. In the male there is an extraordinary cuticular tube, transversely striated and about six anal diameters long, which is associated with the copulatory apparatus and reminiscent of that of *Mesacanthion dipylechna*. The other new forms reported are: *Thalassoalaimus brasiliensis* n.sp., *Oxystomina affinis* n.sp., *Lauratonema hospitum* n.sp., *Trileptium stylum* n.sp., *Anoplostoma hirtum* n.sp., *Onchclaiumus gladius* n.sp., *O. cavatus* n.sp., *Eurystomina sawayai* n.sp., *Desmodora cazca* n.sp., *Metachromadora pneumatica* n.sp., *Monoposthia besnardi* n.sp., *Microlaimus papillatus* n.sp., *Neochromadora bonita* n.sp., *Procamacolaimus cosmius* n.sp., *Chronogaster alatum* n.sp., *Terschellingia mora* n.sp., *Desmolaimus calvus* n.sp., *Steineria marcorum* n.sp., *S. ericia* n.sp., *Theristus tersus* n.sp., *T. acribus* n.sp., *Leptogastrella stricta* n.sp., *Sphaerolaimus lodosus* n.sp., and *S. lamasus* n.sp. M.MCK.

779—Boletín Médico del Hospital Infantil. Mexico.

- a. LA TORRE, J. A. DE & ARREDONDO, L., 1954.—“Complicaciones quirúrgico-abdominales de la ascariidiasis en el niño.” 11 (2), 143–170. [English summary p. 168.]
 b. LA TORRE, J. A. DE, RENTERÍA, G. & CISNEROS, F., 1954.—“Cisticercosis cerebral en el niño.” 11 (6), 643–654. [English summary p. 652.]

780—Boletín de la Sociedad de Cirugía del Uruguay.

- a. PIQUINELA, J. A., 1954.—“Contusión de abdomen. Ruptura traumática intraperitoneal de un quiste hidático de hígado.” 25 (6), 716–721.
 b. SAN JULIÁN, J. & ARANA INIGUEZ, R., 1954.—“Nuevo método para la extirpación del quiste hidático cerebral.” 25 (6), 722–728.

781—Boletín de Zootecnia. Córdoba.

- *a. LIZCANO HERRERA, J., 1954.—“Aportaciones al conocimiento de las ascariidiosis porcinas y su tratamiento con fluoruro de sodio.” **10**, 49–58.

782—Boletines y Trabajos. Sociedad de Cirugía de Buenos Aires.

- *a. BUSTOS, F. M., 1954.—“Quiste hidático de hígado abierto en vía biliar. Cierre de la brecha biliar por suture.” **38** (1), 16–18.
 *b. BREA, M. M., 1954.—“Quistes hidáticos de pulmón de gran volumen.” **38** (18), 427–428.
 *c. BAILA, A. E., 1954.—“Quistes hidáticos de pulmón de gran volumen.” **38** (19), 461.

783—Bollettino di Zoologia.

- a. BRONZINI, E. & BERTOLINO, P., 1954.—“Indagini sperimentali sulla specificità dell'ospite dell'*Echinococcus granulosus* allo stato adulto.” **21** (2), 219–221.
 b. FRIZZI, G., 1954.—“Un primo contributo allo studio del ciclo della *Dirofilaria immitis* in *Anopheles maculipennis atroparvus*.” **21** (2), 395–400.

(783a) Although the W.H.O. and F.A.O. have appealed for the killing of wild carnivores as a step in the control of *Echinococcus granulosus*, evidence is quoted to show that the possible suspects in Italy, i.e. wolves and particularly foxes, cannot be implicated. In the zoo in Rome Bronzini and Bertolino have autopsied 17 foxes captured in the surrounds of the city but have found no *Echinococcus* infections. About 1,000 scolices of the parasite, obtained at the zoo from ruminants of local origin, were given to each of two young dogs and two young foxes. At autopsy, both dogs had several hundred cestodes in fully mature condition whereas of the two foxes, one had only three, the other had 13 specimens, the mature segments often containing few or no eggs. It is concluded that the fox is an unsuitable host for *Echinococcus* larvae derived from ruminants in Italy. M.MCK.

(783b) Using Kartman's method Frizzi has studied the life-cycle of *Dirofilaria immitis* in *Anopheles maculipennis atroparvus*. Five hours after the infective feed many larvae were already in the Malpighian tubules. The sausage-stage was evident after 48 hours and fully moulted third-stage larvae began to appear by the seventh day. Migration started on the ninth day and larvae were found in the labium after the tenth day. It appears that the development of *D. immitis* is quicker and more complete in *A. maculipennis atroparvus* than in *Aedes aegypti*, *Culex quinquefasciatus*, *C. pipiens*, *Anopheles freeborni*, *A. quadrimaculatus* [and *Aedes albopictus*] used by Kartman. In a number of mosquitoes small second-stage larvae were still in the Malpighian tubules on the 9th and 12th days and were beginning to undergo encapsulation. This phenomenon is attributed to host resistance to *D. immitis*. M.MCK.

784—Bragantia. Campinas.

- a. LORDELLO, L. G. E., ZAMITH, A. P. L. & BOOCK, O. J., 1954.—“Novo nematódeo parasito da batatinha.” **13**, 141–149. [English summary pp. 148–149.]

(784a) *Pratylenchus steineri* n.sp. is described and figured: it causes small pimples on potato tubers and these are also figured. *P. steineri* differs from *P. minyus* in the tail shape and in its longer spear; it is distinguished from *P. scribneri* by the more posterior vulva. No males were found but all stages were present in the potato lesions. Other nematodes occasionally associated with *P. steineri* are *Helicotylenchus* sp., *Eucephalobus* sp., *Ditylenchus* sp. and *Pratylenchus* sp. J.B.G.

785—British Journal of Ophthalmology.

- a. MAZHAR, M., 1954.—“Hydatid cyst of the orbit.” **38** (12), 753.

786—Bulletin de l'Académie Serbe des Sciences. Classe des Sciences Médicales.

- a. SIMITCH, T. & PETROVITCH, Z., 1954.—“Contribution à la connaissance des parasites intestinaux de l'homme en Yougoslavie. I-ère Partie. Les parasites intestinaux chez les enfants des orphelinats du Banat.” **11** (2), 74-75.
- b. SIMITCH, T., PETROVITCH, Z. & KECKAROSKA, J., 1954.—“Contribution à la connaissance des parasites intestinaux chez l'homme en Yougoslavie.” **11** (2), 81-82.
- c. SIMITCH, T. & PETROVIC, Z., 1954.—“La question de l'identité ou de la dualité de *H. nana* et le rôle des rongeurs dans l'infection de l'homme par ce parasite.” **11** (2), 83-84.
- d. SIMITCH, T., CLADILIN, N., PETROVIC, Z. & LEPEŠ, T., 1954.—“Contribution à la connaissance des parasites intestinaux chez l'homme en Yougoslavie. III. La faune des parasites intestinaux chez les enfants de la Métohie.” **11** (2), 85-86.
- e. SIMITCH, T. & LEPEŠ, T., 1954.—“Contribution à la connaissance des parasites intestinaux chez l'homme en Yougoslavie. IV. La faune des parasites intestinaux de Bačka.” **11** (2), 87-88.

(786b) [The information contained in this paper is the same as that which appeared in *Glas Srpske Akademije Nauke. Odeljenje Medicinskih Nauka*, **209**, 135-141. For abstract see Helm. Abs., **22**, No. 806a.]

(786c) [The information contained in this paper is the same as that which appeared in *Glas Srpske Akademije Nauke. Odeljenje Medicinskih Nauka*, **211**, 11-20. For abstract see Helm. Abs., **22**, No. 806b.]

(786d) [The information contained in this paper is the same as that which appeared in *Glas Srpske Akademije Nauke. Odeljenje Medicinskih Nauka*, **211**, 109-120. For abstract see Helm. Abs., **22**, No. 806c.]

(786e) [The information contained in this paper is the same as that which appeared in *Glas Srpske Akademije Nauke. Odeljenje Medicinskih Nauka*, **211**, 121-132. For abstract see Helm. Abs., **22**, No. 806d.]

787—Bulletin of Marine Science of the Gulf and Caribbean.

- a. WARD, H. L., 1954.—“Parasites of marine fishes of the Miami region.” **4** (3), 244-261.

(787a) Ward annotates fifteen species of helminths from nine species of marine fishes collected off the Miami coast of Florida. Four were trematodes, six were cestodes, two were nematodes and three were acanthocephalans. New host records are *Sphyræna barracuda* for *Rhipidocotyle longleyi* and *Trachinotus falcatus* for *Serrasentis socialis*. R.T.L.

788—Bulletin Médical de l'Afrique-Occidentale Française.

- a. D'HAUSSY, R., BOITHIAS, R. & BERTET, P., 1954.—“L'onchocercose en A.O.F. L'onchocercose oculaire.” No. 2 (Special number), pp. 111-139.
- b. MASSEGUIN, A., TAILLEFER-GRIMALDI, J. & LEVEUF, J. J., 1954.—“Étude générale de l'onchocercose.” No. 2 (Special number), pp. 141-169.

(788a) D'Haussey *et al.* give their clinical observations on ocular onchocerciasis in 583 patients found infected with *Onchocerca volvulus* among more than 14,000 examined for suspected eye disease at the Institute of Tropical Ophthalmology in French West Africa. Treatment usually consisted of four tablets of ivermectin administered daily for 10 days, the course being given one to four times between rest periods of 10-20 days. Some patients also received Moranyl [suramin] injections and some underwent excision. Improvement in visual acuity was rare but seven of 62 blind patients regained serviceable sight after treatment.

M.MCK.

(788b) *Onchocerca volvulus* infection in French West Africa is reviewed under the headings of history, statistics, geographical distribution, clinical aspects, histological and serological study, treatment, prophylaxis and mass treatment. Tables of the geographical distribution of 114,702 cases of clinical onchocerciasis among 3,378,900 people examined, demonstrate the chief endemic areas of Upper Volta, French Sudan and north Dahomey

and show that the disease is negligible or unimportant in Niger Province, the Ivory Coast, Senegal and most of French Guinea. The endemic areas lie mainly between the 9th and 13th parallels. Mauritania is free of infection. No references are given.

M.MCK.

789—Bulletins et Mémoires de l'École Préparatoire de Médecine et de Pharmacie de Dakar.

- a. CAMAIN, R., 1954.—“Aspects histopathologiques des schistosomiasés en A.O.F.” Year 1952-53, 1, 167-174. [English, Spanish & Italian summaries pp. 169-170.]

(789a) Schistosomiasis, due both to *Schistosoma mansoni* and *S. haematobium*, is common in West Africa, causing many types of disease of which the symptomatology is not clearly established. Camain summarizes the histopathological findings in a number of cases and illustrates his observations with photomicrographs.

S.W.

790—Bulletin of the Naniwa University. Series B. Agriculture and Biology.

- a. NODA, R., 1954.—“On the prenatal infection of dogs with ascarids, *Toxocara canis*.” 4, III-119.

(790a) 44 out of 47 puppies had *Toxocara canis* infections considered to be of prenatal origin. Larvae were found only in the liver in two still-born puppies and those examined immediately after birth. Within about three hours of birth the larvae began to migrate to the lungs where they remained for two-and-a-half to five days, migrating thence to the alimentary canal. The first passage of eggs from prenatal infections started 21-23 days after birth. Noda tabulates the lengths and discusses the growth rates of larvae and worms.

M.MCK.

791—Bulletin de la Société des Sciences et des Lettres de Łódź. Classe III de Sciences Mathématiques et Naturelles.

- a. SANDNER, H., 1954.—“Recherches sur la faune des sangsues.” 5 (3), 16 pp.

(791a) Sandner gives notes and tables on the occurrence of the 14 species of leeches which he found in 91 collections of water (ponds, rivers and peat bogs) examined around Łódź in Poland.

M.MCK.

792—Bulletin of Tokyo Medical and Dental University.

- a. OSHIMA, T., 1954.—“Analysis of seasonal ascarids incidence—an hypothesis.” No. 2, pp. 105-111.

(792a) Estimation of the seasonal incidence of *Ascaris lumbricoides* depends not on the discovery of eggs in the faeces but on the date when the infection was actually acquired. It has been assumed by many authors that there is an interval of 12 to 15 weeks. Oshima shows that by making faecal examinations monthly the infections of a certain month will give positive data from the second to the fourth month.

R.T.L.

793—Caryologia.

- a. NIGON, V. & DOUGHERTY, E. C., 1954.—“Variations dans la vitesse de croissance chez un nématode *Caenorhabditis elegans* (Maupas).” 6, Supplement [Proceedings of the 9th International Congress of Genetics, Bellagio, August 24-31, 1953], Part II, pp. 796-797.
- b. CAMERON, J. W., BAINES, R. C. & CLARKE, O. F., 1954.—“Resistance of hybrids of the trifoliate orange to infestation by the citrus nematode.” [Abstract.] 6, Supplement [Proceedings of the 9th International Congress of Genetics, Bellagio, August 24-31, 1953], Part II, pp. 1123-1124.

(793a) Nigon & Dougherty found that after treating *Caenorhabditis elegans* with a nitrogenated mustard gas, the fourth generation of offspring contained a number of individuals characterized by a very retarded development. This phenomenon has been maintained in this line through more than 60 generations of self-fertilized individuals.

S.W.

(793b) Cameron *et al.* have tested hybrids between five species of *Citrus* and *Poncirus trifoliata* for resistance to *Tylenchulus semi-penetrans*. A high proportion of the bigeneric hybrid seedlings were free or nearly free from infestation and the differences in degrees of infestation between these and control seedlings were statistically significant. Some earlier hybrids, already established as orchard trees or root stocks, have been found infested and it remains to be seen whether or no the resistance observed in these present seedlings will be maintained. S.W.

794—Časopis Národního Musea.

- a. DYK, V., 1954.—“Méně známí paraziti jihomoravských ryb. III.” 123 (1), 39–45. [English & Russian summaries pp. 44–45.]
- b. LUCKÝ, Z., 1954.—“Nález tasemnice—*Eubothrium crassum* (Bloch, 1779) ve sřevě třebonského úhoře.” 123 (1), 63–66. [Russian summary p. 66.]

(794a) This third section of the review of little known and recently described parasites of fish from rivers and ponds in South Moravia deals with the occurrence, intensities of infection and some other aspects of *Azygia lucii*, *Proteocephalus torulosus*, *Camallanus truncatus* and *Raphidascaris acus*. A table lists all the parasites found, including 14 helminth and one leech species, giving their size, hosts and pathogenicity. G.I.P.

(794b) *Eubothrium crassum*, which is reported in the literature as specific to the salmon group, is described and figured from eels from near Trebon in Czechoslovakia. G.I.P.

795—Československá Parasitologie.

- a. JÍROVEC, O., 1954.—“Co dala naše parazitologie praxi.” 1, 5–13.
- b. DYK, V. & LUCKÝ, Z., 1954.—“Příspěvek k poznání ohnisek parazitů plevných ryb v rybníčních soustavách.” 1, 77–84. [Russian summary p. 84.]
- c. HAVLÍK, O., 1954.—“Nové druhy strunovců z Československa (Gordioidea, Nematomorpha).” 1, 85–95. [German summary pp. 93–95.]
- d. MACHÁČEK, J., 1954.—“Příspěvek k průzkumu helmintofauny kachen v kraji brněnském.” 1, 175–177. [Russian summary pp. 176–177.]

(795a) This is a general discussion of the study of parasitology in Czechoslovakia particularly in relation to its practical application. G.I.P.

(795b) Dyk & Lucký have examined fish from two large fishing reservoirs near the river Jihlava and give the hosts and incidence of the seven parasites found. They conclude that the fish, by remaining in the reservoirs throughout the winter under conditions favourable to infection, constitute natural infection centres and become a source of infection to the fish stock. G.I.P.

(795c) Havlík describes and figures from Czechoslovakia two new species of Gordioidea, the hitherto unknown male of *Gordius perronciti*, and *Paragordius stylosus* from a rice field near Levice, which is the most northern record of this species in Europe. *Gordionus formidatus* n.sp., described from one female near Košice, measures 751 mm. by 0.6–1.2 mm. and is larger than all known species of this genus. It differs from *G. violaceus* and *G. thienemanni* by the larger areoles which cover the whole body and on the dorsal cuticle are very distinct, mostly five to six-edged and 25–35 μ in size. The interareolar furrows are without processes. The host of *G. formidatus* is unknown. *Gordius locustae* n.sp., described from one male in *Phasgonura* (*Locusta*) *viridissima* is 367 mm. long and differs from *G. dectici* and *G. gesneri* by the areoles which are longitudinally oval, confluent in places and measure 15–18 $\mu \times$ 10–13 μ . The transverse interareolar furrows are fairly wide and the longitudinal are indistinct in places. G.I.P.

(795d) The incidence of intestinal helminths in ducks from the Brno area was *Hymenolepis anatina* 36%, *H. gracilis* 34%, *Ascaridia lineata* 16% and *Polymorphus boschadis* 14%. The specimens of *P. boschadis* varied in their morphology. G.I.P.

796—Chinese Medical Journal. Taipei.

- a. FAN, P. C. & HSU, J., 1954.—“Filariasis in Free China. Part I. Incidence in Taiwan, Penghu (Pescadores) and Kinmen (Quemoy).” Year 1954, pp. 77–86.

(796a) Search for evidence of filariasis in Quemoy, the Pescadores Archipelago and south-west Formosa, by examining the night blood of 11,909 native islanders and all of 13,975 Chinese immigrants from the mainland, showed incidences among the islanders of 19.11%, 14.27% and 1.49% respectively and only of 3.27% to 5.79% among the immigrant Chinese. In the former group *Wuchereria bancrofti* only was present; in the latter both *W. bancrofti* and *W. malayi* occurred. In Quemoy and the Pescadores the infection was wide-spread and endemic. In south-west Formosa it was limited to six villages in two neighbouring districts and as the high incidence of 5.58% and 6.61% occurred in the 31–40 and 41–50 age-groups, it can safely be assumed that filariasis existed in these villages long before V.J. day and the arrival of infected mainlanders.

M.MCK.

797—Ciencia Veterinaria. Madrid.

- *a. TORRENS PASTOR, A., 1954.—“La hidatidosis en Mallorca.” 15, 185–208.
*b. ÁLVAREZ BETES, J., 1954.—“Parasitología de la hidatidosis porcina.” 15, 480–488.
*c. ÁLVAREZ BETES, J., 1954.—“Hidatidosis porcina en Málaga.” 15, 489–491.

798—Cyprus Medical Journal.

- a. SHELLEY, H. & MARANGOS, G., 1954.—“Hydatid disease in a child producing Horner's syndrome.” 7 (1), 2–3.
b. MICHAELIDES, P. E., 1954.—“Hydatid cyst complicating acute appendicitis.” 7 (7), 114.

799—Deutsche Gesundheitswesen (Das).

- a. EICHLER, W., 1954.—“Kurze systematische Übersicht der wichtigsten Parasitengruppen von medizinischer Bedeutung.” 9 (9), 271–273.
b. MOCHMANN, H., 1954.—“Verwurmung und landwirtschaftliche Abwasserverwertung. (An Hand von Untersuchungen in Greifswald.)” 9 (12), 381–384.
c. SEIDEL, G., 1954.—“Das Trichinoskop; ein Hilfsmittel für bakteriologische und histologische Laboratorien und für den mikrobiologischen und histologischen Unterricht.” 9 (14), 441–442.
d. JIROVEC, O., 1954.—“Parasitäre Krankheiten in der Tschechoslowakei.” 9 (38), 1119–1126.

(799a) Eichler presents a classification of parasites of medical importance in which helminths are placed in the kingdom Metazoa. Phylum Parenchymia includes the classes Trematoda and Cestoidea, and phylum Aschelminthes includes the subphyla Nemathelminthes (of which Nematoda is a class) and Acanthocephalata (including the class Acanthocephala). Orders and families of the most important parasites are also listed. A fuller account of Eichler's classification is being published in the *Wissenschaftliche Zeitschrift der Universität Leipzig, Math.-nat. Klasse*.

A.E.F.

(799b) Mochmann reports from Greifswald that five of 100 children examined for Ascaris were positive, while of 100 adults none was infected: from this (assuming the ratio of adults to children to be 4:1 he estimates that 1% of the whole population of Greifswald is infected, “if conclusions can be drawn from such a small sample”. An examination of the treated town sewage yielded only 12 Ascaris ova per litre and this is calculated by him to indicate a human infection of 1% of the population, thus confirming the results of faecal examinations. The incidence of Ascaris in Greifswald is thus satisfyingly low but an inspection of the town sewage works gave no reason for complacency. They were found to be grossly overloaded and the use of the sewage on agricultural land could well lead to a spread of infection. The dangers are discussed and the need for adequate treatment of sewage is stressed.

A.E.F.

(799c) Seidel describes how the trichinoscope can be used for test agglutination in bacteriological meat inspection and also for histological sections. The trichinoscope is also valuable for instructing in microbiology and histology. A.E.F.

(799d) Jirovec's survey of human parasitic infections in Czechoslovakia deals with some helminth infections. The incidence of *Enterobius* in Prague children in 1949 to 1953 was some 50%, in country children 70% to 80% and in adults about 26%. *Ascaris* was between 1.3% and 5%; it was much rarer in Bohemia and Moravia than in Slovakia. *Trichuris* infection in Prague was 6.7% but in Slovakia figures of from 14% to 36.3% were recorded. *Trichinelliasis* is rare and only 260 cases—15 fatal—have been recorded in the last 80 years. *Trichinella* has not been found in rats but 20% of foxes [number examined not stated] were positive: the incidence in slaughtered pigs is said to be from 0.0002% to 0.0008%. *Taenia solium* infection has become a great rarity but *T. saginata* is diagnosed in Prague about 50 times a year. In recent years *Hymenolepis nana* has been reported from children's homes. A.E.F.

800—Deutsches Medizinisches Journal.

- a. PAECKELMANN, K. M., 1954.—“Bandwurmbehandlung mit Atebrin.” 5 (9/10), 244–245.

(800a) From literature and his own results on the atebirin treatment of cestodiasis in man, Paeckelmann concludes that an efficacy of 80–90% can be expected and that atebirin is safer and more efficient than filix mas preparations. The use of a duodenal sound increases the efficacy of atebirin, e.g. 89.1% out of 106 patients passed worms as compared with 77.7% out of 287 without its use. A single dose of 1 gm. can be used without hesitation and no dangerous side effects need be expected. G.I.P.

801—Día Médico. Buenos Aires.

- *a. JUNG, R. C. & BEAVER, P. C., 1954.—“Tratamiento de la oxiuriasis.” 26 (36), 926–927.
 *b. HALER, H., 1954.—“Schistosomiasis entre los nuevos inmigrantes.” 26 (56), 1552–1555.

802—Diseases of the Chest. Chicago.

- a. BETTS, R. H. & THOMAS, T., 1954.—“The treatment of intrathoracic hydatid disease.” 26 (5), 584–603. [French & Spanish summaries p. 603.]
 b. TAIANA, J. A., SCHIEPPATI, E. & ZORRAQUIN, V. A., 1954.—“Pulmonary echinococcus. Surgical treatment in 124 hydatid cysts.” 26 (6), 686–692. [French & Spanish summaries p. 692.]

803—Duodecim.

- *a. PELTONEN, T., 1954.—“Kihomatojen hävittäminen entsyymeillä.” [Enzyme treatment for pinworms.] 70 (4), 305–312.

804—Écho Médical du Nord.

- *a. BIGUET, J. & DEBLOCK, S., 1954.—“La pathologie parasitaire dans le Nord de la France.” 25 (10), 406–427.
 *b. COUTELEN, F., BIGUET, J., CHEVAT, H. & MINNE, L., 1954.—“L'oxyurose chez les jeunes recrues de la région du Nord.” 25 (10), 428–431.
 *c. BIGUET, J. & CAFFIER, J., 1954.—“Le traitement actuel des parasitoses intestinales.” 25 (10), 440–448.
 *d. COUTELEN, F., BIGUET, J. & OBEZ, A., 1954.—“L'activité remarquable de la pipérazine dans l'ascaridiose.” 25 (10), 449–451.

805—Farmakologiya i Toksikologiya. Moscow.

- *a. KARASIK, V. M. & KOZLOVA, N. A., 1954.—[Rhythmic function of muscle in the leech produced by veratrine.] 17 (2), 44–47. [In Russian.]
 *b. TAREEVA, A. I., 1954.—[Anthelmintic effect of aminoacridine.] 17 (3), 47–50. [In Russian.]
 *c. IVANOVA, Z. I. & KHITENKOVA, L. P., 1954.—[Treatment of Moniezia infection in sheep.] 17 (3), 50–51. [In Russian.]

806—Folia Medica. Naples.

- *a. GIROMINI, M. & GRANATI, A., 1954.—“Infestione e malattia nell'anchilostomiasi in rapporto al problema dei portatori.” **37** (5), 399-407.
- *b. GIROMINI, M. & GRANATI, A., 1954.—“Rilievi clinici sull'anchilostomiasi nei lavoratori agricoli.” **37** (5), 408-416.

807—Formosan Science.

- a. HUNG, S. H. & HUNG, S. C., 1954.—“Observation on the intestinal parasitism of helminths in school children in the suburbs of Taipei City.” **8** (1), 18.

808—Gastroenterology. Baltimore.

- a. LATTY, Jr., S. G., HUNTER, III, G. W., MOON, A. P., SULLIVAN Jr., B. H., BURKE, J. C. & SPROAT, H. F., 1954.—“Studies on schistosomiasis. X. Comparison of stool examination, skin test, rectal biopsy, and liver biopsy for the detection of schistosomiasis mansoni.” **27** (3), 324-333.

(808a) One hundred and seven soldiers without symptoms of schistosomiasis from Puerto Rico were examined by rectal biopsy and by two concentration techniques, AMS III (hydrochloric acid-sodium sulphate-Triton-ether) and MGL (formalin-ether), on three separate stool specimens. Eggs of *Schistosoma mansoni* were detected in the faeces alone in six, by rectal biopsy alone in three and by both methods in 33. Liver biopsies were made in 29 infected soldiers: 15 were normal, 14 showed granulomatous lesions and 10 gave evidence of eggs. The skin test was not reliable. Thirteen of the 88 men subjected to a skin test were negative although eggs had been found in the faeces or mucosa. Where *S. mansoni* infection is suspected rectal biopsy, after three negative examinations by the AMS III technique, is recommended.

M.MCK.

809—Geflügelhof.

- *a. KEUSEN, E., 1954.—“Bandwürmer im Hühnerschlaraffenland.” **17**, 6-7.

810—Georgia Veterinarian.

- *a. STEWART, T. B., 1954.—“Laboratory diagnosis of parasitism.” **6** (2), 1-2.
- *b. BAILEY, W. S., 1954.—“Clinical diagnosis of parasitic gastro-enteritis of cattle.” **6** (2), 2.
- *c. TURK, R. D., 1954.—“Treatment of bovine trichostrongylosis.” **6** (2), 3.

811—Health. Canberra.

- a. BEARUP, A. J., 1954.—“Schistosome dermatitis (surfer's itch).” **4** (3), 83-86.

(811a) Recent investigations have indicated that the surfer's, bather's, pelican or Toukley itch acquired by bathers and fishermen along the coast of New South Wales is a schistosome dermatitis attributable to schistosomes of aquatic birds. Bearup reviews the schistosome life-history. He describes how the dermatitis develops and notes with examples its world-wide distribution. In the coastal lagoon of Narrabeen, fork-tailed cercariae were found in *Pyrazus australis* only, with an incidence of about 4%. Two of four volunteers exposed to these cercariae developed dermatitis. *P. australis* is common on sand flats of estuaries and coastal lakes of New South Wales.

M.MCK.

812—Hippokrates. Stuttgart.

- *a. PANINKA, E., 1954.—“Blutegelbehandlung bei Augenkrankheiten.” **25** (10), 321-322.

813—Husmandshjemmet.

- *a. BAEKHØJ, K., 1954.—[Watch out for the strawberry nematode.] **4** (29), 9. [In Danish.]

814—Indian Journal of Helminthology.

- †a. CHATTERJI, P. N., 1954.—“On a new species of *Echinochasmus* from the intestine of a dog.” 6 (1), 1-6.
- †b. SRIVASTAVA, U. S., 1954.—“On a new strigeid trematode of the genus *Diplostomum* V. Nordmann, 1832 from the common grey pond heron.” 6 (1), 7-12.
- †c. SRIVASTAVA, N. N., 1954.—“On a new trematode, *Xenopharynx biliphaga* n.sp., from the gall bladder of fresh water snake, *Tropidonotus piscator*.” 6 (1), 13-18.
- †d. SIDDIQI, A. H. & ADHAMI, U. M., 1954.—“On the synonymy of the genus *Chlamydonema* Hegt 1910, with a discussion on the validity of its species.” 6 (1), 19-23.
- †e. SIDDIQI, A. H. & MIRZA, M. B., 1954.—“On a new oxyurid worm, *Enterobius zakiri* n.sp. from the rectum of *Semnopithecus entellus schistaceus* (Tarai langur).” 6 (1), 24-26.
- †f. KHERA, S., 1954.—“Nematode parasites of some Indian vertebrates.” 6 (2), 27-113.

(814a) *Echinochasmus canai* n.sp. from a pariah dog at Allahabad is very near to *E. schwartzi* Price, 1931, but the smooth ovary is on the right side of the median line. There is a genital sucker. The ratio of oral and ventral suckers is 1:3 while in *E. schwartzi* it is 1:4. There is a fairly well developed cirrus sac. Oesophageal gland cells are present in large numbers.

R.T.L.

(814b) *Diplostomum heronei* n.sp., from grey pond herons (*Ardea grayii*) caught around Allahabad, agrees in many respects with *D. butei* and *D. ketupaenis*, but differs from *D. butei* in the shape and disposition of the testes and in the distribution of the vitellaria, which lie between the dorsal and ventral walls of the fore-body and are ventral and lateral behind the adhesive gland. Unlike *D. ketupaenis* the new species has an extremely small prepharynx, the anterior testis is small, block-like and asymmetrical. The posterior testis is much larger than the anterior testis and is almost symmetrical. No species of the genus has hitherto been recorded from birds of the order Gressores.

R.T.L.

(814c) *Xenopharynx biliphaga* n.sp. from the gall-bladder of *Tropidonotus piscator* differs from *X. solus* and *X. piscator* in having very broad intestinal caeca, the gonads placed in the anterior half of the body and the ovary smaller than the testis.

R.T.L.

(814d) The genus *Chlamydonema* is frequently regarded as a synonym of *Physaloptera* but the following difference is held to justify its retention: the presence in *Chlamydonema* of a prepuce-like sheath over the posterior end of both sexes and which is open posteriorly whereas in *Physaloptera* the sheath is present in the male only and is closed. *Chlamydonema fuelleborni* Mirza & Singh 1934 is not a synonym of *Physaloptera brevispiculum*.

R.T.L.

(814e) *Enterobius zakiri* n.sp. is described from the rectum of *Semnopithecus entellus schistaceus* captured in Garhwal. The tail has four well developed pairs of pedunculated caudal papillae, viz., a very large pedunculated anterior pair, a posterior pair supporting the alae and two more pairs posterior to the cloaca. The spicule is not curved. The differences between *E. zakiri* and *E. vermicularis* are tabulated.

R.T.L.

(814f) Khera adds 18 new species and three new genera to the nematode fauna of vertebrates in India and enlarges our knowledge of nine known species. His host list for the 18 species comprises two fish, one amphibian, five reptiles and eight mammals. Unless otherwise stated, the only locality recorded for the new species is the zoo at Lucknow. *Ophidascaris ajgaris* n.sp. from *Python molurus* has spicules of 5.2-6.2 mm. in length, the longest described in the genus. From those species described from females only it differs in the shape of the lips, length of oesophagus (5.1-6.98 mm.) and in that the vulva is post-equatorial dividing the body in the ratio of about 6:4. *Amplicaeum monitor* n.sp. from *Varanus monitor*, differs from *A. varani* in several respects including the presence of small sub-equal spicules. *Syphacia tineri* n.sp. from *Rattus norvegicus* resembles most closely *S. obuslata* and *S. stroma* but is differentiated mainly by a complete and prominent chitinous ring lining the cloaca and the absence of cervical and caudal alae. Khera considers *S. venteli*

a synonym of *S. muris*. *Acanthoxyinema lucknowensis* n.g., n.sp. is created for a single female from a goat from Lucknow abattoir. It resembles *Acanthoxyuris* but has two ovaries and two uteri. The nerve ring encircles the junction of oesophagus and oesophageal bulb and the oesophageal valve lies anteriorly in the bulb. *Subulura indica* n.sp., from Loris (*Stenops*) *lydekkerianus* from South India, is distinguished from *S. distans* and *S. neodistans*, by the presence, among other features, of ten pairs of caudal papillae, six lips, cervical alae and a completely divided vestibule. López-Neyra's division of *Subulura* into *Subulura* and *Travassallodapa*, based on whether the spicules are equal or unequal, is considered superfluous. *Subulura vulpis* n.sp., collected from *Vulpes bengalensis* shot in United Provinces, is distinguished from *S. numidica* by the precloacal sucker, which is fusiform and not surrounded by trabeculae, the dissimilarity of the spicules and absence of caudal alae. *Arthrocephalus herpestis* n.sp. from *Herpestes smithii smithii* is similar to *A. gambiensis*. The buccal capsule, however, measures 0.11–0.113 mm. \times 0.07–0.075 mm., the ratio of oesophageal to body length is $\frac{1}{12} - \frac{1}{14}$, the spicules are 0.24–0.25 mm. long and each bifurcation of the dorsal bursal ray is tridigitate, the external digit being L-shaped. *Herpestostrongylus herpestis* n.g., n.sp. from *Herpestes edwardsi* is closely allied to *Aelurostrongylus* and *Pulmostrongylus* but has a minute chitinous vestibule, a bilobed bursa, a chitinous ring round the cloaca and an inverted Y-shaped accessory piece. *Mastophorus magnus* n.sp. from *Rattus rattus* has the laterally compressed mouth and post-equatorial vulva of *Protospirura* as defined by Chitwood, and the pentadentate pseudolabia and pedunculate caudal papillae of *Mastophorus* as defined by Chitwood, thus eliminating the division between these genera. *Protospirura* is therefore a synonym of *Mastophorus*. *Spinitectus major* n.sp. was found in *Mastacembelus armatus* [locality not given]. The combination of characters which differentiates it from other species of *Spinitectus* includes: the absence of plugs or filaments on the eggs, the presence of 145 annulations in the female and 130 in the male, the number of spines in each annulation, the number of precloacal papillae (four pairs), size of vestibule (0.75 mm. in the female and 0.71 mm. in the male) and the absence of caudal alae. *S. percalates* is considered a synonym of *S. plectroplites*. Khera rejects Skryabin's classification of the Spirurata of fish. *Rictularia ratti* n.sp. from *Rattus norvegicus* is closest to *Rictularia taterilli* but the female has a body length of 65–70 mm. and an oesophageal length of 6.0–6.2 mm., and in the male the respective lengths are 7.0 mm. and 0.44 mm. There are no pre-cloacal papillae, an accessory piece is present and the eggs are 0.038–0.042 mm. in diameter. *Cucullanus hardellus* n.sp. from *Hardella thurgi* resembles *C. serratus* but the female measures 7.4–8.9 mm. and the male, 5.9–7.1 mm. The species has a small intestinal caecum, nine pairs of caudal papillae and spicules 1.8–1.97 mm. long. *Camallanus ranae* n.sp. from *Rana cyanophlyctis* is closely allied to *C. baylisi* but has narrower caudal alae, five pairs of post-cloacal papillae, a bifid tail in the female and no prongs or barbs on the spicules. Measurements also differ. *C. unispiculus* n.sp. from *Mastacembelus armatus* [no locality given] resembles *C. anabantis* and *C. sweeti* but the beaded longitudinal ridges on the buccal capsule valves have spines on their inner sides, there are 14 pairs of pre-cloacal papillae and the left spicule is absent. *C. atridentus* n.sp. from *Ophicephalus punctatus* from Saharampur differs from the other three species without a trident in that there is a ring of extremely fine teeth at the base of the chitinous buccal capsule, and that the left spicule is stout, cleft at its root, expanding just before the distal tip. *Camallanides piscatori* n.sp. from *Natrix piscator* has no chitinous bodies in the buccal capsule in contrast to the only other species *C. prashadi*; on this basis *Camallanides* is divided into *Camallanides* n.subg. for *C. prashadi* and *Procamallanides* n.subg. for *C. piscatori*. *C. (Procamallanides) pyas* n.sp. from *Ptyas (Zamenis) mucosus* has only five pairs of post-cloacal papillae as compared with nine pairs in *C. piscatori* and differs also in measurements and shapes of various structures. In *Papilloslerus erinaceus* n.g., n.sp. from *Erinaceus* sp. caught in Rajasthan, papillae are scattered irregularly all over the body and constitute the main difference between this genus and *Oslerus*. *Cardionema* is considered a synonym of *Oslerus* and the subfamily Cardioneminae is therefore renamed Osleriinae. Other nematodes described or discussed are *Toxocara mystax*, *Monhysterides kachugae*, an abnormal specimen of *Oesophagostomum columbianum*, *Globocephalus connorfilii*, *Haemonchus bispinosus* (recorded for the first time in India), *Varestrongylus*

pneumonicus, *Tanqua tiara*, *Camallanus kachugae* and *Cucullanus antipodeus*. The last, from the fish *Myxus seenghala* purchased at Lucknow, constitutes new host and geographical records. Keys are given to species of *Syphacia*, *Monhysterides*, *Arthrocephalus* and *Tanqua*.
M.MCK.

815—Irish Veterinary Journal.

- a. HARBORD, R. S., 1954.—“Observations on the incidence and treatment of hookworm in dogs.” 8 (11), 251–255.

(815a) Experiments were carried out which confirmed that toluene is a safe and effective anthelmintic against hookworms. The case histories of 11 dogs infected with hookworms are given [not 12 cases as stated in summary]. In nine of these cases toluene was administered in capsule form, but in one case the drug was given suspended in castor oil or emulsified with gum acacia, and in another case all three methods of administration were used. The dosage used varied, but it appears that the recommended rate of 0.1 ml. per lb. body-weight is effective provided the animals have been adequately fasted beforehand. It was also confirmed that toluene is highly efficient against canine ascarids.
D.M.

816—Istanbul Üniversitesi Tıp Fakültesi Mecmuası.

- a. OBERHOFER, B., 1954.—“Akciğerlerin hydatid kistlerinin teşhis ve tedavisi.” [Diagnosis and therapy of hydatid cysts of the lungs.] 17 (2), 245–256. [Also in English pp. 257–264.]

817—Izvestiya Akademii Nauk Armyanskoi SSR. Biologicheskie i Selsko-khozyaistvennie Nauki.

- a. SVADZHYAN, P. K., 1954.—[Prophylactic control of *Dicrocoelium* infestation by means of destruction of the land shell molluscs.] 7 (11), 45–55. [In Russian: Armenian summary pp. 54–55.]

(817a) Various measures of control of the molluscan intermediaries in areas of *Dicrocoelium dendriticum* infection in Armenia were tried in field experiments. Agrotechnical improvement of pastures was effective against *Chondrula tridens* and *Helicella crenimargo*. Chemical control is recommended for smaller village pastures where infection tends to be high, and was effective against *H. derbentina* and *Zebrina hohenackeri* which live on the surface. Calcium chloride and the Russian chemical “D” which contains sodium, chlorine and sulphur proved the best and should be applied after rain. Chemical control is impracticable where infection is spread over large areas and for mountain pastures which are not easily accessible.
G.I.P.

818—Japanese Journal of Pharmacology.

- a. YAMASAKI, H., MANNAMI, C. & TAKAOKA, T., 1954.—“Potentiation of anthelmintic efficacy by the combination of alkylresorcinols.” 4 (1), 52–61.

(818a) Experimental evidence is cited which shows that the anthelmintic efficacy, against *Ascaris lumbricoides* in vitro and when given clinically, of three synthetic alkylresorcinols, viz., 4-n-octyl-6-chlororesorcinol (melting point 54–54.8°C.), 4-n-octylresorcinol (melting point 73–74.5°C.) and 4-cyclohexyl-6-chlororesorcinol (melting point 89–91°C.) is enhanced when any two of these are given in combination. In man, a mixture containing 70% of 4-n-octyl-6-chlororesorcinol and 30% of 4-n-octylresorcinol has a greater anthelmintic efficacy and a lower toxicity than hexylresorcinol alone. This is not due to a change in the melting point or of the interfacial activity of the mixture.
R.T.L.

819—Japanese Journal of Sanitary Zoölogy.

- *a. YAMAGUTI, S., INATOMI, S. & KIMURA, M., 1954.—[Rational treatment of farmers' nightsoil containing *Ascaris* eggs.] 4, 126–134. [In Japanese.]

820—Japanese Journal of Veterinary Science.

- a. MOCHIZUKI, H., TOMIMURA, T. & OKA, T., 1954.—[Cerebrospinal nematodiasis as a provoking factor in Japanese encephalitis: an experimental approach. II. Histopathological findings.] [Abstract.] **16**, Suppl. pp. 53–54. [In Japanese.]
- b. CHIBA, T., 1954.—[Pathological studies on pancreatic distomiasis (*Eurytrema pancreaticum* Janson). I. Histological finding in ductus pancreaticus.] [Abstract.] **16**, Suppl. pp. 61–62. [In Japanese.]
- c. MORITA, H., ISSHIKI, O. & TOMIMURA, T., 1954.—[Histopathological studies on swine paragonimiasis. III. Spontaneous infection with *Paragonimus westermanii*.] [Abstract.] **16**, Suppl. pp. 62–63. [In Japanese.]
- d. ISSHIKI, O. & TOMIMURA, T., 1954.—[Histopathological studies on swine paragonimiasis. IV. Spontaneous infection with *Paragonimus* sp.] [Abstract.] **16**, Suppl. pp. 63–64. [In Japanese.]
- e. OSHIO, Y. & FURUTA, I., 1954.—[Studies on the cutaneous infection of *Strongyloides ransomi*. II. On the penetration of filariform larvae through the skin tissues.] [Abstract.] **16**, Suppl. p. 96. [In Japanese.]
- f. KUME, S. & OISHI, I., 1954.—[The use of sulphanilamide with antimony compounds for the chemotherapy of filariasis.] [Abstract.] **16**, Suppl. pp. 96–97. [In Japanese.]
- g. ISHIHARA, T., OGATA, T., KAWATA, S., NINOMIYA, M. & MIKI, S., 1954.—[Prophylaxis of lumbar paralysis of sheep and goats by control of *Setaria* in cattle. I. Vermicidal effects of piperazine (1-diethyl-carbamyl-4-methylpiperazine citrate).] [Abstract.] **16**, Suppl. pp. 97–98. [In Japanese.]
- h. ISHIHARA, T., OGATA, T., UENO, H., NINOMIYA, M., KAWADA, S. & MIKI, S., 1954.—[Prophylaxis of lumbar paralysis of sheep and goats by control of *Setaria* in cattle. II. Prophylaxis for lumbar paralysis and the meaning of this method.] [Abstract.] **16**, Suppl. pp. 98–99. [In Japanese.]
- i. UENO, H., ISHIHARA, T., ICHIKAWA, O. & OGATA, T., 1954.—[On the histochemical structure of *Microfilaria digitata*.] [Abstract.] **16**, Suppl. p. 99. [In Japanese.]
- j. NIIMI, D., HAYASHIDA, S., KONO, I. & YAMAUCHI, C., 1954.—[A new case of lumbar paralysis (cerebrospinal filariasis) in cattle.] [Abstract.] **16**, Suppl. pp. 99–100. [In Japanese.]
- k. NIIMI, D. & KONO, I., 1954.—[Aetiological studies on 'Kose disease' in cattle in Kagoshima Prefecture.] [Abstract.] **16**, Suppl. pp. 100–101. [In Japanese.]
- l. SATO, K., HAYASHI, S. & SASA, M., 1954.—[Studies on skin filariasis of animals. II. Epidemiological studies of the causative filariid parasite of 'Wahi' disease.] [Abstract.] **16**, Suppl. p. 101. [In Japanese.]
- m. SATO, K., HAYASIBARA, H. & HAYASHI, S., 1954.—[Studies on skin filariasis of animals. III. The chemotherapy of 'Wahi' disease with Supatonin (1-diethylcarbamyl 4-methylpiperazine citrate).] [Abstract.] **16**, Suppl. pp. 101–102. [In Japanese.]
- n. MIYATA, M., 1954.—[Comparative study of diagnostic methods for fascioliasis of the liver of slaughtered cattle in Niigata Prefecture.] [Abstract.] **16**, Suppl. p. 103. [In Japanese.]
- o. SUGIURA, K. & FUJIO, S., 1954.—[Pathological changes of the livers of experimentally infected goats with liver-fluke disease.] [Abstract.] **16**, Suppl. pp. 103–104. [In Japanese.]
- p. NODA, R., 1954.—[*Trichuris* species from cattle and giraffes.] [Abstract.] **16**, Suppl. p. 104. [In Japanese.]
- q. KARASAWA, S., HYUGA, Y., NAKAYAMA, J. & KUBOTA, H., 1954.—[Results of eradication of schistosomiasis of cattle in Yamanashi Prefecture.] [Abstract.] **16**, Suppl. pp. 119–120. [In Japanese.]
- r. KARASAWA, S., HYUGA, Y., WATANABE, R. & NATORI, N., 1954.—[Observation on the oecology of intermediate hosts of *Fasciola hepatica*, particularly *Limnaea pervia*, in Yamanashi Prefecture.] [Abstract.] **16**, Suppl. p. 120. [In Japanese.]
- s. WATANABE, S., IWATA, S., SASAKI, T., TSUCHIYA, M. & HOMMA, T., 1954.—[Observations on *Limnaea pervia* as the intermediate host of the common liver-fluke, *Fasciola hepatica* in Sado Island.] [Abstract.] **16**, Suppl. pp. 120–121. [In Japanese.]
- t. ICHIOKA, T., MORITA, T., AKASAKA, K., SATO, T. & KANEDA, C., 1954.—[Survey of parasitic diseases of domestic animals in East Hokkaido. I. A survey of District Tokachi.] [Abstract.] **16**, Suppl. pp. 121–122. [In Japanese.]
- u. OKABE, K., 1954.—[Studies on the prophylaxis of lumbar paralysis of sheep by Supatonin.] [Abstract.] **16**, Suppl. p. 122. [In Japanese.]
- v. FUJITA, J., HOSHI, S. & TAKAHASHI, M., 1954.—[Studies on the anthelmintic effect of 'Supatonin' (1-diethyl-carbamyl-4-methylpiperazine citrate) on *Strongyloides ransomi*.] [Abstract.] **16**, Suppl. pp. 122–123. [In Japanese.]
- w. MIYATA, M., 1954.—[The result of anthelmintic trials against *Fasciola hepatica* in cattle in Niigata Prefecture and the influence on body-weight.] [Abstract.] **16**, Suppl. p. 123. [In Japanese.]
- x. ISODA, M., 1954.—[Pathological studies on *Fasciola hepatica* in infected animals. I.] [Abstract.] **16**, Suppl. pp. 144–145. [In Japanese.]

- y. ISSHIKI, O. & TOMIMURA, T., 1954.—[Histopathological studies on swine paragonimiasis. II. Spontaneous infection with *Paragonimus ohirai*.] [Abstract.] **16**, Suppl. p. 145. [In Japanese.]
- z. ICHIOKA, T., KANEDA, C., KISHIDA, S., NAKAJIMA, M. & WATANABE, H., 1954.—[Studies on the microfilaria in the blood vessels and the subcutaneous tissues of cow and horse.] [Abstract.] **16**, Suppl. p. 146. [In Japanese.]
- ba. KUROKAWA, K., ODAIRA, S., HARAGA, H., YOSHIZAKI, S. & SEKIMOTO, Y., 1954.—[Surgical treatment of canine cardio-filariasis. II. Method of extracting the filaria from the pulmonary artery and its results in three cases.] [Abstract.] **16**, Suppl. p. 168. [In Japanese.]
- bb. KUROKAWA, K., ODAIRA, S., HARAGA, H., YOSHIZAKI, S. & SEKIMOTO, Y., 1954.—[Surgical treatment of canine cardio-filariasis. III. Haematological observations after extraction of the filaria from the pulmonary artery.] [Abstract.] **16**, Suppl. p. 169. [In Japanese.]

821—Jornal de Pediatria. Rio de Janeiro.

- *a. ALBUQUERQUE NEVES, H. DE & SCAFF, L. M., 1954.—“Microfilaremia congênita. Adendo à nota prévia.” **19** (4/5), 161–166.

822—Journal of Bone and Joint Surgery. American Volume.

- a. KELLSEY, D. C. & SPROAT, H. F., 1954.—“Echinococcus disease of bone. Report of a case.” **36-A** (6), 1241–1248.

823—Journal of the Department of Agriculture. Dublin.

- a. ANON., 1954.—“Potato root eelworm.” **50**, 160–162.

824—Journal of the Faculty of Radiologists. London.

- a. WILLIAMS, I., 1954.—“Calcification in loiasis.” **6** (2), 142–144.

(824a) Three X-ray photographs are reproduced showing calcified adult worms in three cases of loiasis acquired in West Africa.

R.T.L.

825—Journal of Gakugei, Tokushima University. (Natural Science).

- a. TOYO-OKA, R. & OKADA, K., 1954.—“Studies on the development of two diplostomatid metacercariae, found in *Oryzias latipes*, a freshwater fish.” **4**, 55–64.

(825a) Two diplostomatid metacercariae found, one encysted the other free, in the viscera of the fresh-water fish *Oryzias latipes* in the Tokushima district of Japan are described and figured. In artificially fed pigeons the encysted form developed into *Ornithodiplostomum podicipitis* Yamaguti, 1939, and the free form into adults of an apparently unknown [unnamed] species of *Ornithodiplostomum*.

R.T.L.

826—Journal of the International College of Surgeons.

- a. BERKAY, F., 1954.—“Spinal echinococcosis.” **22** (1, Part 1), 35–43. [French, German, Italian & Spanish summaries pp. 42–43.]

827—Journal de Médecine de Bordeaux et du Sud-Ouest.

- a. PIECHAUD, F. & RATÉ, J., 1954.—“Essais thérapeutiques médicaux de l'hydatidose pulmonaire.” **131** (10), 981–984.

(827a) Piechaud & Raté discuss the clinical treatment of pulmonary hydatid infections by bronchial aspirations or intra-muscular injections of iodized thymol solution in oil. These treatments are worth trying before surgical intervention in cases which are not urgent.

M.MCK.

828—Journal of Protozoology. New York.

- a. CAINE, R. L., 1954.—“A morphologic and taxonomic study of the enteric protozoa of leeches.” [Abstract of paper presented at the 6th Annual Meeting of the Society of Protozoologists, Gainesville, Fla, September 6–8, 1954.] **1**, Suppl. p. 9.

829—Journal de Radiologie et d'Electrologie.

- a. JALET, J., 1954.—“Le syndrome de Friess-Pierrou (éosinophilie, adénopathies, pneumopathies d'origine filarienne) et son intérêt en radiologie.” **35** (3/4), 202–204.

(829a) Jalet discusses the Friess-Pierrou syndrome and its filarial aetiology, the radiological signs which characterize it, the means of demonstrating the microfilariae and the methods of treatment. S.W.

830—Journal d'Urologie Médicale et Chirurgicale.

- a. COUVELAIRE, R. & BOUHANNA, E., 1954.—“Sur la bilharziose urinaire. (À propos de sept observations.)” **60** (9/10), 659–683.

831—Journal of Urology.

- a. MILLER, C. D., BRANCATO, F. P. & MUELLING, Jr., R. J., 1954.—“Schistosomiasis of the urinary bladder: with serial biopsies under therapy.” **72** (2), 196–203.

832—Journal of the Zoological Society of India.

- †a. KHAMBATA, F. S. & BAL, D. V., 1954.—“Studies on the cestodes of marine fishes from Bombay. I. On the genus *Balanobothrium* Hornell, 1912 (Cestoda), with a description of a new species.” **6** (2), 101–110.
- †b. BAUGH, S. C., 1954.—“Studies on larval flukes of *Vivipara bengalensis* (Lamarck). Part I. On a new furcocercous cercaria of the Vivax type.” **6** (2), 123–128.
- †c. BAUGH, S. C., 1954.—“Studies on larval flukes of *Vivipara bengalensis* (Lamarck). Part II. On a new xiphidiocercaria.” **6** (2), 129–132.

(832a) *Balanobothrium astomum* n.sp. from the spiral valve of *Stegostoma tigrinum*, at Bombay, unlike the two known species of the genus has no suckers. Its hooks are larger and the testes number about 200 in each segment. R.T.L.

(832b) *Cercaria pendulata* n.sp. is described and figured from *Vivipara bengalensis*. It is furcocercous. The body and furci are spinose, but the tail stem is aspinose. Prepharynx, pharynx and oesophagus are present. The intestinal caeca are long and sinuous. The body flame-cells number 15 pairs. There are three pairs in the tail. R.T.L.

(832c) *Cercaria lucknowensis* n.sp. from *Vivipara bengalensis* is a xiphidiocercaria closely resembling *C. elizabethae* but having a spinose body, a much longer oesophagus, shorter caeca and an elongated excretory bladder. It also differs from *Cercaria indica* LXII for two pairs of the penetration glands are pre-acetabular and the third pair is postero-lateral to the ventral sucker. R.T.L.

833—Khirurgiya. Sofia.

- *a. GANCHEV, N., 1954.—[Ocular localization of cysticerciasis due to *Taenia solium*.] **7** (2), 106–113. [In Bulgarian.]
- *b. KIRANOV, I. & KHADZHIEV, D., 1954.—[Echinococcosis of the cranium.] **7** (9), 564–565. [In Bulgarian.]

834—Kinderärztliche Praxis.

- a. TOLKSDORF, M., 1954.—“Ein kurzer Beitrag zur Frage der Oxyurenimmunität im Säuglingsalter.” **22** (9), 387–388.
- b. HOFFMAN, H. U., 1954.—“Abakterielle Meningitis purulenta und massiver Wurmbefall.” **22** (12), 556–558.

(834a) Tolsdorf examined 400 infants, admitted to hospital for various causes, for *Enterobius* by the cellophane tape method and found all completely negative. Since 31%.

had come from large families and 30% from homes where the social conditions varied between average and very bad, Tolksdorf accepts his results as proof positive of an immunity to *Enterobius* in infants. A.E.F.

(834b) Hoffmann reports a case of non-bacterial meningitis in a 19-months-old girl. Nematode larvae [unspecified] were found in the cerebrospinal fluid and large numbers of *Enterobius* larvae were recovered from the urine. The patient was very severely ill but rapidly improved and eventually made a complete recovery. A.E.F.

835—Kitakanto Medical Journal.

- *a. KOBAYASHI, A., 1954.—“Studies on the modes of natural *Ascaris* infection in Gunma Prefecture. II. Floating method for *Ascaris* ova in soil.” 4, 84.
- *b. KOBAYASHI, A., 1954.—“Studies on the modes of natural *Ascaris* infection in Gunma Prefecture. III. Seasonal change of *Ascaris* ova in cultured soil.” 4, 188.

836—Klinika Oczna. Warsaw.

- a. KLEMAŃSKA, K., 1954.—“Trichinosis ocularis.” 24 (1), 57–60. [English & Russian summaries pp. 59–60.]
- b. MUSIAŁ, A., 1954.—“Przypadek zaatakowania oka ludzkiego przez pijawkę; *Theromyzon tessulatum*.” [Case of penetration of the human eye by *T. tessulatum*.] 24 (2), 147–148. [English & Russian summaries p. 148.]

837—Kurume Medical Journal.

- a. OAKABE, K., KOGA, Y., SHIBUE, H. & MATSUSE, M., 1954.—“Immunological studies on schistosomiasis japonica. 3. Intradermal and precipitin tests for schistosomiasis japonica.” 1 (2), 85–89.
- b. OTA, S. & TADOKORO, H., 1954.—“On the group-specific substance of *Ascaris lumbricoides*.” 1 (2), 105–108.
- c. YOSHIZUMI, Y., 1954.—“A new diagnosis of schistosomiasis japonica by needle biopsy of the liver.” 1 (2), 118–128.

(837a) Intradermal tests for *Schistosoma japonicum* were positive in 66.6% of 2,621 persons in the centre of an endemic area, in 25.5% of 2,540 on the perimeter and 21.2% of 4,199 just outside the area. Eggs were found by smear in 10%–20% of the positive cases. 28 positive reactions (two being falsely positive) occurred among 160 nurses in Kurume city. These had been in contact with flood water from the Chikugo river where *Oncomelania* had been found before the flood. Positive responses seemed to appear two months after infection. Precipitin tests, using antigen at dilutions of 1:800, were positive in all of 19 acute cases, in 22 out of 23 chronic cases and in three doubtful cases. The reaction was negative in eight normal persons. Precipitin tests are considered a good supplementary method of diagnosis in doubtful cases. M.MCK.

(837b) Blood sera of anti-B_I, anti-B_{II}, anti-B_{III}, anti-O_I, anti-O_{II} and anti-O_{III} types were used in precipitin and absorption tests with *Ascaris lumbricoides* extracts. The sera anti-B_{III} and anti-O_{III} presented positive precipitin reactions and these precipitins could be absorbed completely by the *Ascaris* extract, showing that *A. lumbricoides* contains B_{III} and O_{III} as well as the partial antigen A_{IV}, C group substance and Forssman's antigen reported by Ota in *Acta Medica*, 23 (6). The fact that group-specific substances can be detected in *A. lumbricoides* by analysing partial antigens is considered to be a new observation. M.MCK.

(837c) Yoshizumi has used needle biopsy of the liver, without complications, to detect *Schistosoma japonicum* eggs in 35 persons. To prevent bleeding 20 c.c. of 20% glucose containing 100 mg. of vitamin K are injected intravenously. He describes ten of these cases, of which eight were negative to faecal sampling and two were believed to have been cured a few years previously. The method is recommended in cases where fever accompanies indefinite symptoms. It detects eggs far earlier than faecal sampling and thus permits of an early cure. M.MCK.

838—Kyushu Agricultural Research.

- *a. GOTO, S., 1954.—[On the influence of some factors upon the pathogenicity of nematode root rot of sweet potato. 1. Varietal and time of transplanting.] No. 14, pp. 220–222. [In Japanese.]

839—Landwirtschaftliche Zeitschrift der Nord-Rheinprovinz.

- *a. GOFFART, H., 1954.—“Über die ‘Kleeälchen’ am Niederrhein.” 121, 442.

840—Landwirtschaftsblatt Weser-Ems.

- *a. LANGE, 1954.—“Nematoden an Kartoffeln, Rüben und Hafer.” 101, 48–50.

841—Lebensmitteltierarzt.

- a. SCHÖNBERG, F., 1954.—“Atypische Verkalkung von Trichinellenkapseln bei einem trichinösem Schwein aus Südschweden.” 5 (15/16), 185–186.
 b. SCHÖNBERG, F., 1954.—“Zur Anwendung von Trichinenschäumikroskopen mit Phasenkontrastkondensor nach Heine.” 5 (21/22), 255–257.

(841a) Schönberg reports the finding of atypical calcification of *Trichinella* capsules in a pig from Sweden slaughtered at Lübeck. Calcification had developed centrally instead of from the periphery, as is usual. Fully viable encapsulated *Trichinella* were also found as well as dead, dark-coloured larvae. The paper is illustrated with photomicrographs. A.E.F.

(841b) Schönberg describes and illustrates a microscope with a built-in phase contrast condenser which greatly facilitates the identification of *Trichinella* larvae. A.E.F.

842—Liječnički Vjesnik.

- a. REINER, I. & KATUNARIĆ, D., 1954.—“Klinika generalizirane mišićne cisticercioze.” [Clinical aspects of generalized muscular cysticerciasis.] 76 (1/2), 29–39. [English summary p. 39.]

843—Lunds Universitets Årsskrift.

- a. WIESER, W., 1954.—“Reports of the Lund University Chile Expedition 1948–49. 17. Free-living marine nematodes. II. Chromadoroidea.” N.F. avd.2, 50 (16), 148 pp.

(843a) In this systematic account of the free-living marine nematodes, belonging to the Chromadoroidea, collected by the Lund University Chile Expedition 1948–49, Wieser includes descriptions and figures of many species including, among the Cyatholaimidae, three new genera *Haustrifera*, *Biarmifer* and *Metacanthonchus*, 14 new species and two new names (viz., *Longicyatholaimus stekhoveni* nom. nov. for *L. effilatus* Stekhoven, 1950 nec 1946 and *Paracanthonchus stekhoveni* nom. nov. for *Pracacanthonchus micoletzkyi* Stekhoven, 1950 nec 1943). Among the Desmodoridae described are ten new species and eighteen new synonyms, new combinations and changes in rank, including the reduction of the genera *Heterodesmodora* and *Desmodorella* to subgeneric rank within the genus *Desmodora* and the renaming of *Microlaimoides* Allgén nec Höppli as *Microlaimella* nom. nov. One new genus, *Paramicrolaimus*, and six new species are added to the Microlaimidae. The Chromadoridae described include one new genus, *Chromadoropsis*, 12 new species, a new subgenus (*Trichodorina*) of *Neochromadora* and 66 new synonyms, new combinations and changes of rank including *Chromadorita chitwoodi* nom. nov. for *C. tentabunda* Chitwood nec de Man and *Actinonema chitwoodi* nom. nov. for *Pareuchromadora longicaudata* Chitwood nec Steiner. Under Comesomatidae there are three genera, *Cervonema*, *Vasostoma* and *Metacomesoma*, 14 new species and 13 synonyms, new combinations and changes in rank, including *Sabatieria chitwoodi* nom. nov. for *S. hilarula* Chitwood nec de Man and *S. mawsoni* nom. nov. for *S. antarctica* Cobb, 1920 nec 1914. R.T.L.

844—Lyon Médical.

- a. LAGÈZE, P., TOURAINE, R. & NORMAND, J., 1954.—“Un cas d'anémie grave à ankylostomes.” 191 (8), 169–173.

845—Magyar Állatorvosok Lapja.

- *a. NEMESÉRI, L., 1954.—[Importance of wild living insectivores and rodents in the spreading of trichinelliasis.] **9**, 276-278.
- *b. LÖRINCZ, F. & NEMESÉRI, L., 1954.—“Adatok a trichinella-lárva konyhasó-turéséhez.” [Resistance of *Trichinella* larvae to common salt.] **9**, 336-339.
- *c. MÓCSY, J., 1954.—“Időszeru kérdések a juhok parasitász bántalmazai köréből.” [Problems arising from helminth infestation in sheep.] **9**, 370-373. [Discussion pp. 373-376.]
- *d. KOBULEI, T., 1954.—[Globocephalosis of pigs.] **9**, 416-418.

846—Marseille Médical.

- *a. CARCASSONNE, Y., 1954.—“Comment se débarrasser d'un parasite intestinal.” **91** (3), 234-254.

847—Mededelingen van de Landbouwhogeschool en de Opzoekingsstations van de Staat te Gent.

- a. BRANDE, J. VAN DEN, KIPS, R. H. & D'HERDE, J., 1954.—“Veldproeven in verband met de invloed van het watergehalte van de bodem en van de bodemtemperatuur bij de scheikundige bestrijding van het aardappelcystenaaltje *Heterodera rostochiensis* Woll.” **19** (4), 765-776. [English, French & German summaries pp. 771-775.]

(847a) The authors used D-D mixture at rates of four and eight litres per are on sandy soil infested with potato root nematodes. Soil moisture and temperature varied. Hatching from cysts recovered 20 days after treatment indicated that at 16.5°C. and 7% moisture content the mortality was 53.6% in the four-litre treatment and 87.2% in the eight-litre treatment, while with soil moisture of 12.5% mortality was 100% for both doses. Temperature did not appear to influence the effects of D-D in moist soil. Counts of newly formed cysts on plants grown in the soil gave similar results. It is concluded that a very high degree of control can be attained in soil with a uniform moisture content of 10-12% irrespective of temperature between 2.5°C. and 16.5°C. At optimum moisture content there was no significant difference between four and eight-litre treatments.

M.T.F.

848—Medical Bulletin of the U.S. Army, Europe.

- *a. WATKINS, E. S., 1954.—“Hydatid cysts in swine.” **11** (10), 249.

849—Medicina, Cirurgia, Farmácia. Rio de Janeiro.

- a. NAVES, M., CORREIA, D. B. & CHAVES, A. R., 1954.—“Ruptura espontânea do baço na esquistossomíase mansônica.” No. 218, pp. 267-272.

850—Medicine Illustrated. London.

- a. HINDS, S. W., 1954.—“Worm infestation of children.” **8** (12), 809-822.

851—Meditinskaya Sestra. Moscow.

- *a. MAGAZANIK, G. L., 1954.—[Leeches.] Year 1954, No. 4, pp. 20-22. [In Russian.]

852—Meditinski Pregled. Novi Sad.

- a. LAINOVIĆ, Č. & RADOŠEVIĆ, Z., 1954.—[Trichinelliasis. Some case reports.] **7** (2), 99-107. [In Serbian: English, French & German summaries pp. 106-107.]

853—Mémoires de l'Académie Royale des Sciences Coloniales. Section des Sciences Naturelles et Médicales.

- a. SCHWETZ, J., 1954.—“Taxonomie des Planorbidæ de l'Afrique éthiopienne transmetteurs des schistosomíases humaines et animales. Revue analytique.” Collection in 8vo, **25** (2), 49 pp.

854—Mémoires de l'Institut Scientifique de Madagascar. Série A. Biologie Animale.

- a. JOYEUX, C. & BAER, J. G., 1954.—“Cestodes et acanthocéphales récoltés par M. Patrice Paulian aux Îles Kerguelen et Amsterdam, 1951-1952.” **9**, 23-40.

(854a) Among the cestodes and acanthocephalans in this collection two cestodes from birds were of especial interest. *Tetrabothrius pauliani* n.sp. from *Pygoscelis papua* is small, being only 10 mm. long and with a maximum width of 686 μ , and resembles *T. wrighti* closely but the structure of the genital atrium, particularly that of the distal part of the vagina, is fundamentally different. *Anomotaenia micracantha* is divided into two subspecies: specimens from *Larus dominicanus* are identified as *A. micracantha dominicana* with *A. antarctica*, *Paricterotaenia dominicana* and *P. ransomi* as synonyms; this subspecies is characterized by possessing 20 hooks, 30-37 μ long (mean, 33.5 μ), 13 to 20 testes (mean, 16) and cirrus pouch 98-229 μ long (mean, 163.5 μ); *A. micracantha micracantha*, with *A. micracantha* (Krabbe, 1869) *auctores* and *Paricterotaenia rhynchopis* as synonyms, is characterized by having 20-22 hooks, 28-34 μ long (mean, 31 μ), 10 to 16 testes (mean, 13) and cirrus pouch 100-160 μ long (mean, 130 μ). The cestodes of Lariformes (*Paricterotaenia*, *Anomotaenia* and *Choanotaenia*) are reviewed. The specimens from fish and mammals are annotated. *Aspersentis austrinus* from *Notothenia rossii* is described and illustrated. S.W.

855—Military Surgeon.

- a. RADKE, M. G., HUNTER, III, G. W., MOON, A. P., POTTS, D. E. & WILLIAMS, J. S., 1954.—“Studies on schistosomiasis. IX. Results of screening some ointments for protection against *Schistosoma mansoni*.” **115** (6), 401-405.

(855a) From screening tests of various compounds in ointments it was found that inunction with a wettable powder containing N-butylacetanilide gave mice complete protection against *Schistosoma mansoni* cercariae, but some of the animals showed toxic effects. R.T.L.

856—Naturaliste Malgache.

- a. ARNOULT, J., 1954.—“Intérêt des poissons malacophages dans la lutte contre la bilharziose à Madagascar.” **6** (1/2), 87-90.

(856a) Following studies of fish in artificial surroundings, Arnould reports on two fishes which feed on snails and could help in the control of schistosomiasis in Madagascar. The gambusid is a small, voracious and highly prolific cyprinodontid from Texas. In ponds and rice fields populated with these fish at Ambositra it was difficult to find *Bulinus* and planorbids, but in terraced fields where fish were absent the molluscs abounded. When *Macropodus opercularis*, a fish from south China and Tonkin, was placed with young in a natural depression abundant with *Limnaea natalensis*, *Bulinus lirutus* and *Planorbis trivialis*, these molluscs diminished by 90% within a few months and only large snails remained. The author intends, after due consideration, to introduce this fish into infected regions. It has the added advantage that the young eat miracidia and cercariae with avidity. M.MCK.

857—Népegészségügy. Budapest.

- *a. SCHERER, S., 1954.—“Enterobius szűrővizsgálatok felnőtt egyéneken.” [Enterobius examination in adults.] **35** (7), 193-195.

858—New York State Journal of Medicine.

- a. ROSENBAUM, L., ULTMANN, R. & PALEY, S. S., 1954.—“Visceral schistosomiasis.” **54** (10), 1510-1513.
 b. SCHAEFER, W. & SHAFER, R. J., 1954.—“Visceral larva migrans simulating leukemia.” **54** (15), 2219-2220.
 c. GRABSTALD, H., 1954.—“Urinary schistosomiasis.” **54** (18), 2595-2600.

(858b) The authors describe the case history of a child with symptoms of leucaemia. Anthelmintic treatment resulted in the elimination of large numbers of roundworms and

improvement in the child's condition. Negative results were obtained with *Toxocara canis*, *Trichinella* and *Ascaris* antigens; although further tests were planned the child did not return to the hospital and the case could not be followed up. S.W.

859—Nisshin Igaku.

- *a. ITO, J., 1954.—[The effects of dryness and salinity on the hatchabilities of eggs of *Schistosoma japonicum*.] **41** (3), 143–148. [In Japanese: English summary.]
- *b. ITO, J., 1954.—[The viability of eggs of *Schistosoma japonicum* in the excrements of several hosts.] **41** (7), 370–376. [In Japanese: English summary.]

860—Okayama Igakkai Zasshi.

- a. ASHIKAGA, M., 1954.—[Studies on synthetic anthelmintics.] **66** (5), 965–1008. [In Japanese.]

861—Orvosi Hetilap.

- a. BORHEGYI, L., SZÉPLAKI, S. & DÓZSÁN, G., 1954.—“*Strongyloides stercoralis* fertőzés két esete.” [Two cases of *Strongyloides stercoralis*.] **95** (27), 738–741. [English & Russian summaries p. 741.]
- *b. VEGHELYI, P. & LUKACS, V. F., 1954.—“Papain mint féreguzó szer.” [Papain as an anthelmintic.] **95** (33), 903–905.

862—Ospedale Maggiore. Milan.

- a. VIVIANI, C. & VALSECCHI, R., 1954.—“Pneumoperitoneo in caso di ascariidiosi.” **42** (1), 26–29. [English summary p. 29.]

863—Pediatria Polska.

- a. JACZEWSKI, A., 1954.—“Przypadek nacieków płuc z eozynofilią wywołanych przez glistnicę.” [Pulmonary infiltration with eosinophilia in a case of ascariasis.] **29** (7), 719–721.
- b. CZYZEWSKA, J., KLINOWSKA, W. & RUDOBIELSKA, M., 1954.—“Dwa przypadki paragonimiasis u dzieci koreańskich.” [Two cases of paragonimiasis in Korean children.] **29** (8), 799–804. [English & Russian summaries p. 804.]

864—Pediatria Prática. São Paulo.

- a. CAVALCANTI, M. & MOREIRA, L., 1954.—“Síndrome de oclusão intestinal por *Ascaris lumbricoides*.” **25** (4), 109–118. [English summary p. 118.]

865—Pediatrické Listy.

- a. VOŠTA, J., 1954.—“Výskyt střevních cizopasníků u dětí národních a mateřských škol v Táboře a u debilních dětí v jednom psychiatrickém ústavu.” [Incidence of intestinal parasites in schoolchildren at Tabor and in a mental institution.] **9** (3), 144–146.
- b. KOSTRA, M., 1954.—“Askariáza v röntgenovém obraze.” [Ascariasis in a roentgen picture.] **9** (6), 348–349. [English & Russian summaries p. 349.]

866—Pharmaceutical Bulletin. Tokyo.

- a. UEDA, T. & TSUJI, T., 1954.—“Arsenical chemotherapeutic drugs. XV. Studies on arsenical compounds as anthelmintics.” **2** (1), 19–22.
- b. UEDA, T. & TSUJI, T., 1954.—“Studies on anthelmintics. II. Studies on anthelmintic compounds related to santonin.” **2** (1), 22–25.

(866a) Ueda & Tsuji tested three series of arsenical compounds (diarylarsinic acids, arylarsenous acids and diarylarsinous acids) against *Ascaris lumbricoides* in vitro, using a dilution of 1:1,000 in Bunge's solution at 38°C. The diarylarsinic acids were without anthelmintic effect. Some of the other compounds, particularly among the diarylarsinous acid series, showed considerable promise but did not produce any “curling-motion effect”. S.W.

(866b) Ueda & Tsuji have tested a number of compounds containing a lactone ring against *Ascaris lumbricoides* in vitro and discuss the relation between chemical structure and anthelmintic activity. Lactone derivatives of 1-hydroxytetralin-2-propionic acid showed a typical but weak "curling-motion effect". Compounds possessing a lactone ring but without a tetralin ring showed an atypical "curling-motion".
S.W.

867—Pharmazie. Berlin.

- a. SPAICH, W. & GRÜNER, S., 1954.—" *Albizzia anthelmintica*. Vorläufige Mitteilung." 9 (12), 1003-1005.

(867a) Spaich & Grüner have tested the value of the bark of *Albizzia anthelmintica* as an anthelmintic. *In vitro* tests on earthworms showed it to be effective in dilutions of 1: 1,000 and in doses of up to 5 gm. per kg. body-weight the substance was not toxic to mice or guinea-pigs. Its anthelmintic property is thought to be due to the saponin content. In clinical tests [of which no details are given] the drug, although well tolerated, was not found to have any advantage over other anthelmintics.
A.E.F.

868—Polski Tygodnik Lekarski. Warsaw.

- a. MIKULSKI, R., 1954.—"Choroba węgorzykowa na terenie województwa krakowskiego i własne spostrzeżenia dotyczące biologii węgorzyka." 9 (15), 469-472. [English & Russian summaries pp. 113*, 116*.]

(868a) Mikulski has encountered ten cases of *Strongyloides stercoralis* in the Cracow area, Poland, in the course of 18 months and considers that the infection has been imported. The case history is given of a man who, after unsuccessful treatment by the usual methods, received hydrochloric acid and pepsin after which no larvae were voided for ten days. The patient refused further treatment. Mikulski succeeded in infecting rabbits and guinea-pigs, but not birds, with *S. stercoralis*.
G.I.P.

869—Praxis. Berne.

- a. JESPER, M., 1954.—"L'ankylostomose au Katanga (Congo belge). Etude épidémiologique, clinique et physiopathologique." 43 (29), 634-640; (30), 651-657; (31), 665-673.

870—Presse Médicale.

- a. JULLIEN-VIEROZ, R., RUZIÉ, CHARTRES, A., VASSELLE, B. & MORIN, G., 1954.—"Un cas de bilharziose génito-urinaire. (Remarques radiologiques et thérapeutiques)." 62 (86), 1843-1844.

871—Proceedings of the Hawaiian Academy of Science.

- a. CHU, G. W. T. C. & CUTRESS, C. E., 1954.—"Human dermatitis caused by marine organisms in Hawaii." [Abstract.] 29th Annual Meeting (1953-54), p. 9.

(871a) The cercaria of *Austrobilharzia variglandis* is one of the dermatitis-producing organisms in Hawaii. The intermediate host is the marine mollusc *Littorina pintado* and the definitive host the ruddy turnstone *Arenaria interpres interpres*.
R.T.L.

872—Proceedings of the Indian Science Congress.

- a. GANAPATI, P. N. & RAO, K. H., 1954.—"On two species of *Bothriocephalus* Rudolphi (1808) Cestoda from the gut of *Saurida tumbil* (Bloch)." [Abstract.] 41st (1954), Part III, p. 172.

(872a) Two species of *Bothriocephalus*, not previously reported, were present in the teleost *Saurida tumbil*; one is named *B. indica* n.sp. [a nomen nudum], the other was not identified.
R.T.L.

872—Proceedings of the Indian Science Congress (cont.)

- b. GUPTA, N. K., 1954.—“On five new trematodes of the genus *Astiotrema* Looss, 1900, from the intestine of *Lissemys (Punctata) punctata* and discussion on the synonymy of two known species.” [Abstract.] 41st (1954), Part III, p. 172.
- c. GUPTA, N. K., 1954.—“On three new species of the genus *Cephalogonimus* Poirier, 1886, from the intestine of *Lissemys (Punctata) punctata*.” [Abstract.] 41st (1954), Part III, p. 173.
- d. LAL, M. B., 1954.—“Studies on the adhesive organ in the trematode family Bucephalidae Poche, 1907.” [Abstract.] 41st (1954), Part III, p. 173.
- e. SEN, P., 1954.—“Experimental study on *Wuchereria bancrofti* in its mosquito cycle.” [Abstract.] 41st (1954), Part III, p. 200.
- f. BHADURI, N. V., CHOUDHURY, A. B. & SANYAL, P. K., 1954.—“A study on the anthelmintic action of the oil of cashew-nut shell.” [Abstract.] 41st (1954) Part III, p. 202.
- g. BHADURI, N. V., 1954.—“Human gnathostomiasis in India.” [Abstract.] 41st (1954), Part III, p. 202.
- h. ROY, S. C., 1954.—“Thelaziasis amongst working bullocks in West Bengal State.” [Abstract.] 41st (1954), Part III, p. 220.
- i. SRIVASTAVA, H. D. & PETER, C. T., 1954.—“Studies on the life history of *Artyfechinostomum sufrartyfex* Lane, 1915, parasitic in man and pig.” [Abstract.] 41st (1954), Part III, p. 221.

(872b) Five trematodes *Astiotrema hoshiarpurium* n.sp., *A. matthaii* n.sp., *A. nathi* n.sp., *A. srivastavas* n.sp. and *A. thapari* n.sp. were found in *Lissemys (Punctata) punctata*, [these new names are nomina nuda]. *A. amydae* Ogata, 1938 and *A. foochowensis* Tang, 1941 are considered to be synonyms of *A. orientale* Yamaguti, 1937. R.T.L.

(872c) *Cephalogonimus indicus* n.sp., *C. kumarus* n.sp. and *C. asiaticus* n.sp. were collected from *Lissemys (Punctata) punctata* at Hoshiarpur. [All are nomina nuda.] R.T.L.

(872d) It is suggested that the non-perforate anterior adhesive organ or sucker of Bucephalidae was originally a simple muscular sucker and that the tentacular processes or rhynchi have been imposed secondarily, a possible transition being *Bucephalopsis* to *Bucephalus* to *Rhipidocoryle* to *Prosohrhynchus*. R.T.L.

(872e) When fed at night on a patient with microfilariæ in the blood only 76% of *Culex fatigans* were engorged as compared with 100% of *Aedes aegypti* when fed during the day on the same patient. Only 10% of the engorged *C. fatigans* became infected and the mortality rate during the first seven days was nearly 25%. No motile larvae appeared in the perivisceral cavity before the 8th day. After about a fortnight three or four larvae could be recovered from the proboscis. The *A. aegypti* were dissected six to 21 days after feeding but proved negative. R.T.L.

(872f) Oil from the shell of the cashew nut is non-toxic, mildly laxative and an effective anthelmintic. A single dose of 5–6 gm. reduced the egg count by 70% to 80% in five and cured 30 out of 47 persons with *Ascaris lumbricoides*, 28 out of 78 cases with hookworm infection, one case with *Hymenolepis diminuta* and one out of two cases of *Strongyloides stercoralis*. Two treatments cured 11 out of 13 cases of *H. nana* and one case of *Fasciolopsis buski*. Large numbers of *Enterobius vermicularis* were passed by all of the ten cases treated. The oil was not effective against *Trichuris trichiura* or *Taenia saginata*. R.T.L.

(872g) A total of seven cases of human infection with *Gnathostoma spinigerum* have been reported from Bengal since Maplestone recorded the first Indian case in 1929. R.T.L.

(872h) None of the indigenous breeds of bullocks in West Bengal suffer from thelaziasis but most of the bullocks drawing carts in the municipal areas of Jalpaiguri town were infected with *Thelazia rhodesii* and had profuse lachrymation, in some cases with photophobia. These animals had been purchased in Bihar. R.T.L.

(872i) There is a high incidence of *Artyfechinostomum sufrartyfex* in the local pigs at Bareilly but no clinical symptoms were observed. [Details of the larval stages found in the local molluscs were given verbally in the paper but are not mentioned in the abstract.] R.T.L.

872—Proceedings of the Indian Science Congress (cont.)

- j. PETER, C. T., 1954.—“A note on the life cycle of *Patagifer srivastavai* n.sp., raised experimentally.” [Abstract.] 41st (1954), Part III, p. 221.
- k. PETER, C. T. & SRIVASTAVA, H. D., 1954.—“Studies on the life history of *Pseudodiscus collinsi* (Cobbold, 1875) Sonsino, 1895, an amphistomatous parasite of equines in India.” [Abstract.] 41st (1954), Part III, p. 221.
- l. PETER, C. T., 1954.—“Studies on larval trematodes from fresh-water snails in Madras.” [Abstract.] 41st (1954), Part III, pp. 221-222.
- m. SINHA, P. K. & SRIVASTAVA, H. D., 1954.—“Studies on the age resistance and resistance to superinfection of poultry against *Raillietina cesticillus*, with some observations on the host specificity of the parasite.” [Abstract.] 41st (1954), Part III, p. 222.
- n. SINHA, P. K. & SRIVASTAVA, H. D., 1954.—“Biological studies on the free living stages of *Schistosoma incognitum* Chandler, 1926.” [Abstract.] 41st (1954), Part III, p. 222.
- o. SINHA, P. K. & SRIVASTAVA, H. D., 1954.—“Life history of *Schistosoma incognitum* Chandler, 1926 (syn. *S. suis* Rao & Ayyar, 1933) and its new mammalian hosts.” [Abstract.] 41st (1954), Part III, p. 222.
- p. DEO, P. G. & SRIVASTAVA, H. D., 1954.—“Studies on the acquired resistance of chickens to *Ascaridia galli* Schrank, 1788.” [Abstract.] 41st (1954), Part III, p. 223.
- q. DEO, P. G. & SRIVASTAVA, H. D., 1954.—“Studies on the age-resistance of chickens to *Ascaridia galli* Schrank, 1788.” [Abstract.] 41st (1954), Part III, p. 223.

(872j) The morphology of *Patagifer srivastavai* n.sp. which was raised experimentally in a pigeon is described [but the differential characters of the new species are not given in the abstract].

R.T.L.

(872k) The life-cycle of *Pseudodiscus collinsi* is described. The cercariae can be recognized from the presence of (i) a few concentrated patches of pigment in the anterior third of the dorsum, (ii) the absence of a cross-connection between the two main excretory trunks, each of which has two lateral diverticula, one in the region of the eyespot, the other at the level of the caecal end, (iii) two well defined oral pouches, (iv) a simple oesophagus, (v) yellowish brown rectangular granular contents in the caeca and (vi) distinct genital rudiments, arranged as in the adult. When the cercariae, encysted on grass, were fed to a donkey, 28% developed and eggs appeared in the faeces 90 days later.

R.T.L.

(872l) Of the 25 different cercariae found in Madras, *Cercaria echinostomi revoluti* Beaver and *Cercaria ii, iv, vii* and *viii* of Sewell are new records for this area. Eleven types of cercariae occurred in *Indoplanorbis* sp. and *Limnaea* spp. and six in *Melanoides*. *Vivipara* sp. discharged *Vivax-furcocercariae* only. *Cercaria indicae iv, xxiii* and *xxx* exhibited no host-specificity. Amphistomes predominated in *Indoplanorbis* and echinostomes in *Limnaea*. R.T.L.

(872m) [The laboratory observations communicated in this paper are not summarized in the abstract.]

(872n) Provided sufficient moisture was present the eggs of *Schistosoma incognitum* survived for one to four weeks but were killed in three to six days if the faeces fermented. Desiccation was still more lethal. The eggs can hatch only in well diluted faeces. The miracidia lived for 10 to 24 hours, depending on the seasonal temperature.

R.T.L.

(872o) The authors claim to have established that *Schistosoma suis* is a synonym of *S. incognitum* and to have added nine mammalian hosts [not cited] to those already known.

R.T.L.

(872p) Experimental data were submitted which indicated that a primary infection with *Ascaridia galli* produced a strong resistance to a subsequent secondary infection of higher intensity.

R.T.L.

(872q) White leghorn chickens first gave evidence of an age resistance to infection with *Ascaridia galli* when 90 days old and complete resistance when 121 days old. In those 105 days old the egg production by the worms was considerably reduced.

R.T.L.

872—Proceedings of the Indian Science Congress (cont.)

- r. DEO, P. G. & SRIVASTAVA, H. D., 1954.—“Studies on the effects of different deficient diets upon the natural resistance of chickens to *Heterakis gallinae* (Gmelin, 1790), Freeborn, 1923.” [Abstract.] 41st (1954), Part III, p. 223.
- s. DEO, P. G. & SRIVASTAVA, H. D., 1954.—“Studies on the acquired resistance of chickens to *Heterakis gallinae* (Gmelin, 1790), Freeborn, 1923.” [Abstract.] 41st (1954), Part III, pp. 223–224.
- t. DEO, P. G. & SRIVASTAVA, H. D., 1954.—“Studies on the age-resistance of chickens to *Heterakis gallinae* (Gmelin, 1790), Freeborn, 1923.” [Abstract.] 41st (1954), Part III, p. 224.
- u. DEO, P. G. & SRIVASTAVA, H. D., 1954.—“Studies on the effects of different deficient diets upon the natural resistance of chickens to *Ascaridia galli* Schrank, 1788.” [Abstract.] 41st (1954), Part III, p. 224.
- v. ROY, S. C., 1954.—“Liver fluke disease amongst cattle in the district of Darjeeling with its main source of infection.” [Abstract.] 41st (1954), Part III, pp. 224–225.
- w. KULKARNI, H. V. & RAO, S. R., 1954.—“An unusual outbreak of schistosomiasis due to *Schistosoma spindalis* in bovines of Bombay State.” [Abstract.] 41st (1954), Part III, p. 225.
- x. KALAPESI, R. M. & RAO, S. R., 1954.—“*Trichinella spiralis* infection in a cat that died in the Victoria Gardens, Bombay.” [Abstract.] 41st (1954), Part III, p. 225.
- y. RAO, P. N. & SINGH, S. N., 1954.—“A note on a new species of *Strongyloides* from the toad.” [Abstract.] 41st (1954), Part IV, p. 31.
- z. SINHA, C. H. S. S., 1954.—“On a new trematode genus *Singhiatrema singhia* n.g., n.sp. from rat snake *Ptyas (Zamenis) mucosus* from Hyderabad-Deccan.” [Abstract.] 41st (1954), Part IV, p. 32.

(872r) When chickens were kept on diets deficient either in protein, vitamin A or calcium, their natural resistance to the same amount of infection with *Heterakis gallinae* was not affected. R.T.L.

(872s) Chickens did not become resistant to a second infection with *Heterakis gallinae* as a result of a primary infection. R.T.L.

(872t) Data were submitted from which it was concluded that complete resistance to experimental infection with *Heterakis gallinae* did not develop up to the age of 121 days. R.T.L.

(872u) The resistance of chickens to infection with *Ascaridia galli* was lowered by a protein-deficient diet and to a greater extent by diets deficient in vitamin A or calcium. R.T.L.

(872v) The livers of 50% to 75% of the buffaloes slaughtered at the Kalimpong municipal abattoir were found to be damaged by *Fasciola gigantica*. The cattle came from Muzaffarpur. R.T.L.

(872w) An outbreak of schistosomiasis, with symptoms resembling those of rinderpest occurred in cattle in the Bombay State. Large numbers of *Schistosoma spindale* were present in the heart and lungs and the death rate was high. R.T.L.

(872x) Although *Trichinella spiralis* has been found in pigs in northern India and is common in squirrels in Lucknow this is only the second time it has been recorded in a cat in India. R.T.L.

(872y) *Strongyloides bufonis* n.sp. from *Bufo melanostictus* is based on the parasitic female with the following measurements: body-length 1.5–1.8 mm.; oesophagus 0.51–0.7 mm.; tail 0.06–0.07 mm.; distance between vulva and anterior end 1.06–1.12 mm. R.T.L.

(872z) *Singhiatrema singhia* n.g., n.sp. from *Ptyas (Zamenis) mucosus* is distinguished from *Parorchis* by (i) the series of collar spines being broken dorsally, (ii) the caeca not extending beyond the acetabulum, (iii) the uterine folds extending backwards between the testes. R.T.L.

872—Proceedings of the Indian Science Congress (cont.)

- ba. ALI, S. M., 1954.—“On a new species of the nematode genus *Viguiera* from the paradise flycatcher.” [Abstract.] 41st (1954), Part IV, p. 32.
- bb. JAISWAL, G. P. & SINGH, S. N., 1954.—“On two species of trematodes belonging to the family, Philophthalmidae, reported from Hyderabad-Deccan.” [Abstract.] 41st (1954) Part IV, p. 32.
- bc. VARMA, A. K., 1954.—“Human and swine *Gastrodiscoides*.” [Abstract.] 41st (1954), Part IV, pp. 35-36.

(872ba) *Viguiera leiperi* n.sp., from the paradise flycatcher, in Hyderabad-Deccan, differs from *V. euryoptera* in possessing markedly unequal spicules and two additional pairs of pre-anal papillae.

R.T.L.

(872bb) [The abstract gives no information other than that contained in the title.]

(872bc) On account of certain differences, mainly in the size and disposition of the testes and their general dimensions, the *Gastrodiscoides hominis* which occurs in the pig is named *G. hominis* var. *suis* n.var. The occurrence of *Fasciolopsis buski* in man in the district of Saharsa in Bihar is now reported.

R.T.L.

873—Proceedings of the New Zealand Society of Animal Production.

- a. WHITTEN, L. K., 1954.—“Some observations on the effect of drenching young sheep with phenothiazine.” 14th Annual Conference (1954), pp. 84-90. [Discussion p. 90.]
- b. CLARKE, E. A. & FILMER, D. B., 1954.—“Observations on helminth parasites and hogget unthriftiness in New Zealand.” 14th Annual Conference (1954), pp. 91-95. [Discussion p. 95.]

(873a) The published data on the body-weight responses of young sheep to drenching with phenothiazine is listed, as well as some unpublished data from trials carried out in New Zealand. These trials covered most of the main sheep rearing districts, and in all over 5,000 animals were involved. It is clear that a spectacular body-weight response to drenching is infrequent, for out of 60 trials only seven showed an increase of 5-10 lb., and only two an increase of over 10 lb. Possible explanations for this are discussed, and it is pointed out that environmental factors can be responsible for fluctuations in the worm burden of sheep that may even exceed those produced by treatment. Drenching in a trial carried out under severe outbreak conditions resulted in a marked reduction in mortality over the autumn and winter months. In another trial, which was continued until the following spring, the difference in weight between the drenched lambs and those that were not was seen to disappear. Whitten considers that this would have occurred in all the trials if they had been continued until the following spring.

D.M.

(873b) The wide-spread unthriftiness of hoggets in New Zealand, which occurs in the spring, is discussed. It is believed that parasitism is, in many cases, the result rather than the cause of this unthriftiness. Trials are described where an attempt was made to eliminate parasites by drenching with phenothiazine in order to see whether hoggets similar to those raised under extensive grazing conditions on the dairy farm could be produced. The drenching, which was much more efficient in the control of *Haemonchus contortus* than of *Trichostrongylus* spp., resulted in a reduction in mean egg count to a level below that in the dairy group, which was however markedly more thrifty. It is concluded that intensive efforts at controlling parasitism cannot be relied on to prevent or alleviate ill thrift in hoggets.

D.M.

874—Proceedings of the Royal Society of Queensland.

- a. MACKERRAS, I. M., 1954.—“Animal reservoirs of infection in Australia.” 65, 1-23.

(874a) Part I of this Presidential Address contains an annotated check list of the five nematodes, two trematodes and five cestodes of animals which have been recorded as occasionally parasitic in man in Australia.

R.T.L.

875—Przegląd Lekarski.

- a. SUREWICZ, W. & SMOLAREK, F., 1954.—“Przypadek przedziurawienia wrzodu żołądka w przebiegu ciężkiej włośnicy.” [Case of perforation of gastric ulcer in the course of acute trichinosis.] **10** (3), 89–90.
- b. GIERON, Z., 1954.—“Benzyna jako środek przeciwczerwiowy.” [Benzine as an anthelmintic.] **10** (6), 190–192.

876—Ptitsevodstvo.

- *a. RIBALTOVSKI, O. V., PIROGOVA, T. I. & PECHENKINA, L. A., 1954.—[An effective means in the control of drepanidotaeniasis of geese.] **6** (6), 43–44. [In Russian.]

877—Public Health Reports. Washington.

- a. GABBARD, M. B., KOTCHER, E. & PULLIAM, E. D., 1954.—“Evaluation of hetrazan as an anthelmintic in children.” **69** (11), 1087–1090.

(877a) During 1952 the incidence of intestinal helminths revealed by a survey of 151 children, mostly of school age, in Owsley County, Kentucky, was *Ascaris lumbricoides* 76·8%, *Trichuris trichiura* 56·2% and hookworm 29·1%. Hetrazan was administered at the rate of 6 mg. per lb. body-weight daily, divided into three doses daily, for four days. Examination of the faeces during the second and third week after treatment gave a cure rate of 52·9% but when made during the third and fourth week this rate fell to 26·5%. This suggests that the drug not only acts as a vermifuge but also inhibits egg production in those worms not expelled. Examination after treatment indicated that hetrazan had some effect in eliminating *Trichuris trichiura* but much less effect on hookworm.

R.T.L.

878—Radiologia Medica. Turin.

- a. GASPARINI, S. & MENEGHINI, C., 1954.—“Ascaridiosi delle vie biliari. Dimostrazione radiologica per via reflua.” **40** (9), 890–895. [French summary p. 895.]

879—Redia. Florence.

- a. MARINARI, A., 1954.—“Contributo alla conoscenza di alcuni nematodi dell'ordine Rhabditida.” **39**, 251–259. [English summary p. 259.]

(879a) Marinari describes, from the outskirts of Florence, three nematodes found in rotten leaves of *Spinacia oleracea*, namely, *Panagrolaimus rigidus* (Schneider, 1866) Thorne, 1937, *Rhabditis aspera* Bütschli, 1873 and *Cheilobus schneideri* Bütschli, 1873. The first is illustrated; of the last only one specimen in good condition was found.

M.T.F.

880—Report of the Commonwealth Scientific and Industrial Research Organization, Australia.

- a. AUSTRALIA. COMMONWEALTH SCIENTIFIC & INDUSTRIAL RESEARCH ORGANIZATION, 1954.—“Sixth Annual Report for the year ending 30th June, 1954.” 6th (1953–54), 179 pp. [See pp. 38, 55–57, 60–61.]

(880a) The section of this report dealing with the work of the Veterinary Parasitology Laboratory, Yeerongpilly, Queensland, states that inspection of the areas treated in 1952–53 with sodium and copper pentachlorophenates for the control of *Simulimnaea subaquatilis*, the vector of *Fasciola hepatica*, showed that the molluscan population had attained pre-treatment intensity six months later, while in the area sprayed with 4 lb. of copper pentachlorophenate per acre, repopulation was only just commencing. Observations on the morphology of the larvae and the cuticular vulvar process in female *Haemonchus contortus* from sheep and cattle indicate that the strains from these hosts are specifically distinct. Further studies by the Division of Animal Health and Production on the relation between the particle size and anthelmintic efficiency of phenothiazine appear to show that the action of this drug is satisfactory provided about 90% of the particles are under 30 μ in diameter. Phenothiazine was less effective against *Ostertagia* spp. than against *Trichostrongylus colubriformis*. Elimination

or reduction of *Trichostrongylus* spp. in weaners and lambs did not significantly impair their ability to resist a fresh challenge infection. Sheep which were resistant to *T. colubriformis* were also resistant to *T. vitrinus* but susceptible to *T. axei* and those resistant to *T. axei* were usually susceptible to *T. colubriformis*. Intake of larvae of *Haemonchus contortus*, *T. axei* and *Ostertagia* spp. produced self-cure of infestation with adults of each species. Penned lambs with heavy infections of *T. colubriformis* usually had low levels of vitamin A, but sheep infected in the field did not benefit from a dose of commercial vitamin A and D preparation. In sheep grazing on oats there was a close relationship between a reduction in the pH of the faeces, especially below 6.5, and the elimination of *Oesophagostomum columbianum* and *Trichuris ovis*. In the Oberon District, a 10% copper pentachlorophenate dust applied at the rate of 10 to 15 lb. per acre proved highly effective against *Simulimnaea subaquatilis*. In the Yass District, sheep drenched monthly with phenothiazine had lighter infections but did not gain more weight than the controls. Details are given of seasonal fluctuations in worm burdens in sheep in New South Wales, in drop lambs at Deniliquin and in ewes and lambs in Tasmania and in Western Australia. Investigations were carried out, by the staff of the Veterinary Parasitology Laboratory, Queensland, on seasonal trends in helminth populations and the host reactions to *Haemonchus contortus*. Faecal egg counts were found to vary from hour to hour and day to day and corrections for faecal consistency had so little influence on these variations as to be of little value. The Baermann technique was unreliable as a means of recovering infective strongyle larvae of cattle, from soil and pasture. Infective larvae can migrate 2½ inches into the soil beneath dung pads and on grass up to 12 inches from the edges of the pads. Few *Haemonchus* larvae survive more than 4½ months whereas many *Cooperia* infective larvae can be found on the grass around the dung pad after five months. In phenothiazine trials 0.2 gm. per lb. body-weight in animals one to two months old proved effective in controlling *Haemonchus* and *Oesophagostomum* but had little effect on *Bunostomum* or *Cooperia*. Tetrachlorethylene, at doses of 7.5 c.c. per 80 lb. body-weight in equal parts of paraffin and preceded by 60 c.c. of 10% sodium bicarbonate, gave excellent results against *Haemonchus*, but even 10 c.c. per 80 lb. body-weight proved ineffective against *Bunostomum* and only partially effective against *Cooperia*. Blood analyses of calves, with heavy nematode infections and in a state of collapse, showed severe anaemia and extreme deficiency of calcium and copper.

R.T.L.

881—Report of the Michigan State Horticultural Society.

- *a. DIETER, C. A. & BIRON, R. A., 1954.—“Plant parasitic nematodes and their effects on crop production.” 84th (1954), pp. 58–60.
- *b. REIMER, C., 1954.—“Nematode control on strawberries in Michigan.” 84th (1954), pp. 77–79.

882—Revista Brasileira de Medicina.

- a. LEITE, G., 1954.—“O analfabetismo e a ancilostomose no Estado da Bahia.” 11 (5), 354–356.
- b. PEÇANHA, J., 1954.—“Cisticercose muscular e subcutânea.” 11 (6), 396–403. [English summary p. 403.]
- c. VILLELA, A. M., FERRO, F. O. & VIEIRA, A. E., 1954.—“Acção planorbicida do piche. Nota prévia.” 11 (7), 469–472. [English summary pp. 471–472.]
- d. MENEZES, H., 1954.—“Mais um caso de miocardite esquistossomótica.” 11 (7), 474–476. [English summary p. 476.]
- *e. CARNEIRO, I. M., BARANSKI, M. C. & LIMA, E. C., 1954.—“Cisticercose cerebral.” 11 (8), 557–562.

(882b) Cysticerciasis was found in only three out of 14,201 persons examined in the I.A.P.I. clinical units at Niterói, in the State of Rio de Janeiro, Brazil. Cysts were present in the muscles of all three patients and one had subcutaneous cysts as well.

M.MCK.

(882c) The damp margins of streams which were heavily populated with *Tropicorbis centimetralis*, in São Lourenço da Mata, Pernambuco, Brazil were cleared of vegetation and then treated with a mixture containing 400 litres of creosote to every 1,400 litres of refined

coal tar. Applications were made one to four times from February to April, at rates of 1.15 kg. to 3 kg. of tar per sq.m. Any vegetation which had remained on the banks was seared and killed and that in the stream beds was similarly but less severely affected. Under these unfavourable conditions almost 100% of the snails died whereas neighbouring streams remained fully populated. M.MCK

(882d) Menezes reports the presence of granulomatous lesions caused by *Schistosoma mansoni* in the heart muscle of a woman and discusses some records of myocarditis and its association with *S. mansoni* infections. He concludes that in the myocardium granulomatous lesions are the only kind caused by this parasite and that they are of exceptional occurrence. M.MCK.

883—Revista de Cirurgia de São Paulo.

- *a. RAIÁ, A., BRANCO, P. D., DANTAS, O. DE M. & MANZIONE, A., 1954.—“Esquistossomose peritoneal.” 19 (4), 139–145.

884—Revista del Colegio Médico de Guatemala.

- *a. AGUILAR, F. J. & VIZCAINO GAMEZ, C., 1954.—“Cisticercosis en Guatemala.” 5 (2), 92–98.

885—Revista Española de Pediatría.

- a. ROCA DE VIÑALS, R. & COMA-FABRÉS, A., 1954.—“Ascaridiosis pancreática y coma diabético.” 10 (3), 439–446.

886—Revista del Instituto Nacional de Investigación de las Ciencias Naturales y Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”, Buenos Aires. Ciencias Zoológicas.

- a. SZIDAT, L., 1954.—“Trematodes nuevos de peces de agua dulce de la República Argentina y un intento para aclarar su carácter marino.” 3 (1), 1–85. [German summary pp. 82–83.]

(886a) Szidat describes six new genera and 14 new species of trematodes from fish from the lower parts of the rivers of the La Plata system. They are radically different from those described from river fish in central and eastern Brazil, resembling instead the marine-type trematodes of Mediterranean fish. They are believed to be a part of a relic fauna [for the origins of which see Helm. Abs., 25, No. 323a]. In the Allocreadiidae *Eocreadium intermedium* n.g., n.sp. from *Plecostomus commersoni* lacks cuticular spines and has the general layout of the genitalia of *Hamacreadium*, the gonopore is just in front of the acetabulum and the excretory vesicle resembles that of *Lepidapedon*. The arrangement of the seminal vesicle and the fact that the oral sucker is larger than the ventral liken it to *Lepocreadium*. *Procaudotestis uruguayensis* n.g., n.sp. from *Loricaria vetula* is very close to *Caudotestis* but the ventral sucker is smaller than the oral, the caeca extend beyond the testes, the cirrus sac reaches well behind the acetabulum and the gonopore is in the mid-line just in front of it. The vitelline follicles, which are few and relatively large, occupy the border of the posterior third of the body and numerous eggs fill most of the intercaecal space. *Crepidostomum platense* n.sp. from *Pimelodus clarias*, *Iheringichthys labrosus* and *Rhinodoras d'orbignyi*, and *C. macrorchis* n.sp. from *Pachyurus bonariensis*, are described. The heterophyid *Palaeocryptogonimus claviformis* n.g., n.sp. from *R. d'orbignyi*, embodies characters from nearly all of the Cryptogoniminae but the caeca reach the posterior border of the testes and are thus longer than those of *Caecincola* and shorter than those of *Paracryptogonimus* and *Allacanthochasmus*. *Proneochasmus argentinensis* n.g., n.sp. from *Pimelodus clarias* resembles both *Neochasmus* and *Palaeocryptogonimus* but it lacks a gonotyl and the ovary is not lobed. *Acanthostomum gnerii* n.sp. is reported from *Rhamdia quelen*. In the Haploporidae, *Saccocoelioides* n.g., having cuticular spines and the size of eggs and configuration of suckers and intestine as in *Saccocoelium*, is differentiated by a group of numerous vitelline follicles on each side of the body. It contains *Saccocoelioides*

nanii n.sp., t.sp. from *Prochilodus lineatus*, *S. elongatus* n.sp. from *Prochilodus* (probably *P. platensis*), *S. magniovatatus* n.sp. from *Leporinus obtusidens*, *S. magnus* n.sp. from *Curimata platana*, *Saccocoelioides* sp. from *Loricaria anus* but presumably in an abnormal host, *Saccocoelioides* sp. from *Schizodon fasciatus* and *Saccocoelioides* sp. (undescribed) from *Pyrrhulina brevis*. *Megacoelium plecostomi* n.g., n.sp. from *Plecostomus plecostomus*, is closely related to *Saccocoelioides* but is gigantic in comparison. It has enormous, sac-like caeca and the testis is rod-shaped. Szidat also describes *Lecithaster intermedius* n.sp. from *Clupea melanostoma* and *Gonocercella magnifica* n.sp. from *P. plecostomus* and *P. commersoni*. Having found that *Derogenes tropicus* Manter, 1936 has polar filaments on the eggs, Szidat transfers it to *Genarchella* as *G. tropica* n.comb. and records it from the [apparently new] hosts *Eucynopotamus gibbosus*, *Leporinus obtusidens*, *Luciopimelodus pati*, *Loricaria anus* and *Pimelodus clarias*. As the caeca of *Genarchella* do not unite posteriorly, Yamaguti was not justified in making it a synonym of *Genarchopsis*. M.MCK.

887—Revista del Instituto de Salubridad y Enfermedades Tropicales. Mexico.

- a. MAZZOTTI, L. & ALCÁNTAR, O., 1954.—“Incidencia de *Trichinella spiralis* en 900 ratas (*Rattus norvegicus*), en la ciudad de México.” 14 (4), 201–202. [English summary p. 202.]

(887a) Of 900 *Rattus norvegicus* captured in Mexico City, *Trichinella spiralis* infection was present in the diaphragms of 18 (2%). M.MCK.

888—Revista Médica de Córdoba.

- a. RODRÍGUEZ, C., 1954.—“*Fasciola hepática*.” 42 (7), 213–216.

(888a) Rodríguez records ten further cases of human *Fasciola hepatica* infection. These were from the provinces of Córdoba and Catamarca in Argentina. Five were found by chance during routine examinations. M.MCK.

889—Revista Médica Dominicana.

- *a. ALVAREZ, E. A. & OLIVIER, A. G., 1954.—“Problema social de la filariasis en nuestro país.” 9 (3/4), 153–155.

890—Revista Médica Veracruzana.

- a. GARCÍA P., M. DEL C., 1954.—“Uncinariasis en una niña de 9 meses.” 35 (2), 2680–2684.

(890a) García cured an intense hookworm infection in a nine-months-old girl by the administration of a single capsule of hexylresorcinol four times during five weeks. Three of the capsules were followed by a saline purge after 24 hours. García concludes from experience that hexylresorcinol can confidently be given to unweaned children also. M.MCK.

891—Revista del Patronato de Biología Animal. Madrid.

- a. SÁNCHEZ BOTIJA, R., 1954.—“Sobre la presencia de la schistosomiasis ovina en España.” 1 (1), 31–35. [French summary pp. 34–35.]

(891a) *Schistosoma bovis* has been observed for the first time in Spain in a flock of sheep at El Bohodón (Avila). Of the 1,240 sheep in the area more than 800 were infected, with involvement of the lung and intestine but not the bladder. Over 600 in a serious state had already been killed and a few had succumbed to paralytic symptoms of cerebral origin. The infected flocks drank from marshy ponds and a nearby watering place, where numerous *Planorbis* were found. As these flocks were nomadic, pasturing in the north of Spain in summer and in the south in winter, a wider extension of the disease is suspected. M.MCK.

892—Revista Portuguesa de Medicina Militar.

- a. FRAGA DE AZEVEDO, J. & GÂNDARA, A. F., 1954.—“A oncocercose no Continente Africano.” **2** (3), 163–188. [English summary pp. 179–180.]

(892a) Fraga de Azevedo & Gândara review the status of human onchocerciasis in Africa in relation to distribution, incidence, clinical manifestations, prophylaxis, diagnosis, treatment, life-cycle of the parasite and biology of the vector. They annotate the characters differentiating the larvae of *Loa loa*, *Wuchereria bancrofti*, *Onchocerca volvulus*, *Acanthocheiloneema perstans* and *A. streptocerca*. It is recalled that onchocerciasis creates grave problems because it forces people to leave fertile regions for unproductive and overpopulated country; and that, following an exhaustive study of the vector, the eradication of the disease at Leopoldville enabled people to settle along the rapids.

M.MCK.

893—Revista de Sanidad y Asistencia Social. Caracas.

- a. PIFANO C., F., 1954.—“La resistencia del huésped vertebrado a las re-infecciones por el *Schistosoma mansoni*.” **19** (1/2), 173–187. [English summary pp. 185–186.]

(893a) Nineteen guinea-pigs were reinfected with *Schistosoma mansoni* once, twice or three times, 2–13 months after an original exposure, using equal or greater numbers of cercariae. Repeated exposures produced light infections of immature worms in addition to the mature worms (usually several hundreds) resulting from the original infection and did not increase the number of eggs deposited in the liver and rectum walls. Nearly all controls harboured several hundred worms and abundant deposits of eggs.

M.MCK.

894—Revista de Veterinaria Militar. Buenos Aires.

- a. RUEDA, E. A., 1954.—“La piretrina como antiparasitario en la estrongilosis equina. Estudio comparativo con la fenotiazina.” **2** (6), 147–152, 154–156.

(894a) Three horses infected with *Strongylus* were given 3.0–3.5 mg. of pyrethrum per kg. body-weight, in gelatin capsules with the addition of 20 gm. of castor oil. Another three infected horses received 0.066–0.08 gm. per kg. of phenothiazine. Both treatments were preceded by a fast of 12–18 hours. Whereas after pyrethrum administration egg counts tended to drop sharply, remaining steady till the disappearance of eggs, after phenothiazine treatment the egg counts decreased at a slow but continuous rate. Rueda gives the blood pictures of five of the horses before and after treatment. He concludes that pyrethrum is as efficient as phenothiazine against horse strongyles.

M.MCK.

895—Revue Médicale de Liège.

- a. BRAKIER, T., 1953.—“Relevé des cas de taenia traités à l'Institut de Clinique Médicale depuis janvier 1951 jusqu'en décembre 1953.” **9** (12), 358–359. [Discussion p. 359.]

896—Revue Médicale du Moyen-Orient.

- a. AZAR, J. E., 1954.—“Le traitement intensif de la schistosomiase.” **11** (1), 89–92.

897—Revue Médicale de la Suisse Romande.

- a. WERNER, A., 1954.—“A propos du syndrome de l'angle ponto-cérébelleux: neurinome de l'acoustique et cysticercose.” **74** (3), 164–169.
b. BICKEL, G. & SECRETAN, P., 1954.—“A propos d'un cas de grande éosinophilie parasitaire. (Infestation par la douve du foie).” **74** (6), 354–363.

(897a) In this discussion of the syndrome of the cerebellopontile angle, Werner describes one case in which surgical intervention revealed numerous small cysticerci floating in the cerebrospinal fluid; one had penetrated the internal auditory meatus and on its removal the patient was able to hear better.

S.W.

(897b) In a patient suffering from malaise the eosinophilia rose to 50%, then fell to 42%, before eggs of *Fasciola hepatica* were found in the bile, where they were numerous although absent from the faeces. 4 cg. of emetine were injected intramuscularly twice daily for 12 days. Four weeks later the bile was negative and the eosinophilia was 14%. M.MCK.

898—Revue Neurologique.

- a. TOLOSA, E., 1954.—“Cysticercose cérébrale: aspects cliniques et possibilités thérapeutiques.” **90** (3), 187–208.
- b. MACIEL, Z., COELHO, B. & ABATH, G., 1954.—“Myélite schistosomique due au *S. mansoni*. Étude anatomo-clinique.” **91** (4), 241–259.

(898b) The necropsy of a woman in Brazil suffering from paralysis of the legs and incontinence of urine and faeces revealed numerous eggs of *Schistosoma mansoni* irregularly distributed in the sacro-lumbar region of the spinal medulla. Vascular lesions and suffusion of blood had caused the chief damage. Fifteen photomicrographs illustrate the histopathology. Maciel *et al.* tabulate the cases of schistosomiasis of the nerve centres reported in the world literature and note a predominance of cerebral locations (92 cases) as compared with medullary locations (in 12 cases). Medullary infections can be divided into those of pseudo-tumoral type, with signs of blockage of the subarachnoid spaces, and the myelitic type without specific symptoms. M.MCK.

899—Revue d'Oto-Neuro-Ophthalmologie.

- a. DUPLAY, J., COSSA, P., BÉRARD-BADIER, M., RANQUE, J. & CERUTI, F., 1954.—“Une observation de cénurose cérébrale.” **26** (8), 466–469.

900—Revue du Praticien. Paris.

- a. GARIN, C., 1954.—“Étude clinique et thérapeutique des taeniasés et de la botriocéphalose.” **4** (23), 2095–2098.
- b. BLANCHON, P., 1954.—“L'ascaridiose et son traitement.” **4** (23), 2099–2105.
- c. BUSSON, A. & ETIENNE, P., 1954.—“Oxyurose.” **4** (23), 2107–2110.
- d. BRUMPT, L. C., 1954.—“Ankylostome, anguillule, trichocéphale.” **4** (23), 2119–2124.
- e. SCHNEIDER, J., 1954.—“La distomatose hépatique en France.” **4** (23), 2127–2133.
- f. LAVERGNE, G. H., 1954.—“Examen parasitologique des selles.” **4** (23), 2145–2153.
- g. CASTAIGNE, P., 1954.—“Polysérite ascaridienne.” **4** (27), 2531–2532.

(900g) Castaigne describes a case of ascariasis with very unusual symptoms. The patient, a young man, became extremely ill with symptoms of bilateral tuberculous pleurisy and peritonitis; three days after admission to hospital he appeared to be dying. During a fit of choking he vomited an ascaris. Treatment with semen contra and a purgative resulted in the expulsion of so many worms that they could not be counted. The symptoms disappeared and the patient recovered rapidly. S.W.

901—Rivista di Neurologia.

- a. FERRARI, D., 1954.—“Osservazioni elettroencefalografiche in un caso di cisticercosi umana cerebrale.” **24** (5), 764–770.

(901a) The electroencephalograph recordings of a 28-year-old man with an apparent cranial, as well as a generalized, infection of *Cysticercus cellulosae* are reproduced. M.MCK.

902—Sborník Československé Akademie Zemědělských Věd.

- a. LEBDUŠKA, J., WILLOMITZER, J. & ŠVEC, R., 1954.—“Účinnost benzylfenylesteru-beta-hydroxyethylkarbaminové kyseliny na škrkavice u drůbeže.” Series B, **27** (6), 691–700. [English & Russian summaries pp. 699–700.]
- b. LEBDUŠKA, J., ŠIMUNEK, J. & MAREK, J., 1954.—“Účinnost česneku, cibule a křenu na škrkavky in vitro.” Series B, **27** (6), 701–708. [English & Russian summaries p. 708.]

(902a) The benzylphenyl ester of β -hydroxyethylcarbamic acid at doses of 12.5–700 mg. per kg. body-weight in pills was harmless to hens and chicks; the only side effect was diarrhoea

in several cases. Dosing on alternate days, giving 0.1 gm. per kg. on the first and 0.2 gm. on the third and fifth days cured all of 15 female turkeys of *Ascaridia*. No food was allowed on the first two days. Two doses of 0.25 gm. per kg. on the first and third day gave an intens- efficacy of 71.9% and extens- efficacy of 44% in ten turkeys, and a single dose of 0.5 gm. per kg. gave an intens- efficacy of 91% and extens- efficacy of 10% in another ten birds. The majority of worms was passed in the first two days, the remainder was voided by the eighth day after dosing. The drug was ineffective against *Heterakis* and tapeworms. G.I.P.

(902b) Data on the economic harm due to ascarids are summarized. The effect of ground horse-radish, onion and garlic in concentrations 1:50, 1:100 and 1:200 with physiological salt solution was tested *in vitro* on groups of ten *Ascaris lumbricoides* var. *suum*. The strongest ascaricidal effect was obtained with the horse-radish. All ascaris were dead after 15 hours in the 1:50 solution, after 25 hours in the 1:100 solution and after 39 hours in the 1:200 solution. In the garlic and onion solutions most of the worms died within 49 to 73 hours, but all the worms were killed only after 96 to 97 hours. G.I.P.

903—Sbornik Rabot. Leningradski Veterinarnii Institut.

- *a. NIKANOROV, V. A., 1954.—[A case of *Onchocerca* infestation of the joint capsule of the first phalanx in a horse.] 14, 58–62. [In Russian.]

904—Sborník Vysoké Školy Zemědělské a Lesnické Fakulty v Brně. Rada B. Spisy Fakulty Veterinární.

- a. DYK, V. & LUCKÝ, Z., 1954.—“Určování a výskyt hlístice *Raphidascaris acus* (Bloch, 1779).” 2 (1/2), 3–8. [German & Russian summaries pp. 6, 8.]
- b. MICHALOVIČ, M., 1954.—“Výsledky průzkumu parazitů ryb v podunajské oblasti u Komárna.” 2 (1/2), 67–74. [Russian summary p. 73.]
- c. SOMMER, A., 1954.—“Tasemnice vodního ptactva z okolí Velkého Meziříčí.” 2 (3/4), 1–13. [Russian summary p. 12.]
- d. GOTTHARDT, A., 1954.—“Regionální výskyt parazitů ryb Ipelské kotliny u Lučence.” 2 (3/4), 91–94. [Russian summary p. 94.]
- e. DYK, V., LUCKÝ, Z. & VALENTA, Z., 1954.—“Příspěvek k rozlišení digenetických trematodů z rodu *Bunodera* a *Crepidostomum*, jejich výskyt, hostitelé i pathogenita.” 2 (3/4), 105–115. [German & Russian summaries pp. 114–115.]
- f. LUCKÝ, Z., 1954.—“*Tetraonchus monenteron* (Wagener, 1857) Diesing, 1858 nový žaberní cizopasník moravských štik.” 2 (3/4), 141–144. [Russian summary p. 144.]

(904a) The occurrence and diagnostic features of *Raphidascaris acus* are described. In Czechoslovakia it occurs in the trout and less frequently in the grayling. Larval *R. acus* were found in the liver of one loach. G.I.P.

(904b) The eleven parasite species found by Michalovič in fish from the basin of the Danube and the Váh near Komárno included six helminths and two leeches. The most frequent were *Ligula intestinalis*, *Triaenophorus crassus* and metacercariae of *Neascus cuticola*. A table lists the species found by the author and those collected by Vejnar in 1933 from fish from the Danube near Komárno, giving their hosts. G.I.P.

(904c) The results are published of earlier investigations of the cestode fauna of aquatic birds collected in 1930 from water reservoirs in the Velké Meziříčí area in Czechoslovakia. Twenty species of cestodes were found in ten types of birds. An extensive list of literature is given. G.I.P.

(904d) The nine parasitic species found in fish in the Ipel river basin near Lučenec include four helminths and one leech. Their occurrence and incidence in the seven fish hosts are given. G.I.P.

(904e) From their own results and data in the literature Dyk *et al.* list the distinctive generic characters for *Bunodera luciopercae* and *Crepidostomum farionis* and their occurrence in fish in Czechoslovakia, their seasonal dynamics and pathogenicity. G.I.P.

(904f) Lucký describes and figures *Tetraonchus monenteron* from the gills of pike from Vranovsk reservoir in Moravia. G.I.P.

905—Scandinavian Journal of Clinical and Laboratory Investigation.

- a. TELKKÄ, A., WAHLSTRÖM, S. & KOULUMIES, R., 1954.—“Eosinophil cells in fish tapeworm (*Diphyllobothrium latum*) carriers.” 6 (1), 15–16.
- b. KAIPAINEN, W. J. & TÖTTERMAN, G., 1954.—“On the vitamin B₁₂ content in feces in cases of pernicious tape-worm anemia.” 6 (1), 33–35.
- c. KAIPAINEN, W. J. & WALLÉN, S., 1954.—“On the vitamin B₁₂ content of the fish tape-worm.” 6 (2), 88–90.

(905a) Telkkä *et al.* have studied the percentage eosinophilia in 300 persons infected with *Diphyllobothrium latum* and 300 controls. They conclude that, contrary to frequent statements appearing in the literature, *D. latum* does not cause eosinophilia. S.W.

(905b) The authors found that the vitamin B₁₂ content in faeces of patients with pernicious tapeworm anaemia did not differ definitely from that in healthy persons or in tapeworm carriers without anaemia and that it varied within the same limits. S.W.

(905c) Kaipainen & Wallén have demonstrated, by microbiological determination, that *Diphyllobothrium latum* and *Taenia saginata* contain no vitamin B₁₂ bound to a thermolabile factor or, that if any is present, it is less than 0.00001 µgm. per 2.5 mg. of dried pulverized worm. S.W.

906—Shikoku Acta Medica.

- a. YOSHIDA, Y. ET AL., 1954.—[Studies on the helminths (especially of hookworm) in a village of Kagawa Prefecture. Report 2.] 5 (6), 52–58. [In Japanese: English summary p. 52.]

(906a) Although *Ancylostoma duodenale* predominated, a number of cases of *Necator americanus* were found during an examination of faeces collected in a village of Kagawa Prefecture, Japan. R.T.L.

907—Soobshcheniya Akademii Nauk Gruzinskoi SSR.

- a. CHIABERASHVILI, E. A., 1954.—[Preliminary data on the study of the development of certain echinostomatids of birds.] 15 (5), 287–293. [In Russian.]

(907a) The development of three species of *Echinostoma* found in fresh-water molluscs from the Georgian SSR was studied. *E. paraulum* infection was found in *Limnaea ovata* and reached maturity after 14 days in experimentally infected ducklings and chicks. The occurrence of encysted metacercariae in daughter rediae indicates the absence of a second intermediary. *E. miyagawai* infection was found in *L. lagotis* and reached maturity after 13 days in experimentally infected ducklings. The intermediate hosts of these two echinostomatids had hitherto been unknown. *E. revolutum* infection was found in *L. ovata*, *L. lagotis* and *L. truncatula*. Its embryonic development at 21°C.–22°C. lasts 12 days, the miracidia hatching on the 14th day in light. G.I.P.

908—Sotilaslääkietieteellinen Aikakauslehti. Helsinki.

- *a. VENHO, I. & VENHO, E. V., 1954.—“Suomessa esiintyvistä sisälmysmadoista ja niiden häädöstä.” [Intestinal worms common in Finland and management of infestations.] 29 (2), 90–107.

909—South African Journal of Science.

- a. ELSDON-DEW, R., 1954.—“The sandworm.” 51 (3), 77–79.

(909a) Creeping eruption or larva migrans frequently occurs on the Natal coast during the warmer months and is locally known as “Sandworm”. Dogs from upper-class houses in Durban were examined and of 24 affected with hookworm, ten showed a mixed infection with

Ancylostoma caninum and *A. braziliense*, one with *A. braziliense* only and 13 with *A. caninum*. When infective larvae, reared from ova from dogs showing single infections, were placed on the skin of a volunteer, the lesions due to the *A. braziliense* larvae were those of a typical sand-worm infection whereas the *A. caninum* larvae gave rise to bullae, with indurated edges which usually burst and became secondarily infected. R.T.L.

910—Sovetskaya Meditsina.

- a. ASTROZHNIKOV, Y. V., 1954.—[Case of obstruction with ascaris of the anastomosis following gastric resection.] 18 (6), 34. [In Russian.]
- b. GUSEINOV, G. A., 1954.—[On the oxygen treatment of patients suffering from ascaris infestation.] 18 (12), 34–36. [In Russian.]

(910b) Oxygen was intubated into the stomach (in the morning, on an empty stomach) in 100 cases of ascariasis. Only seven had passing epigastric pains and one had nausea. The dosage was 200 ml. for those up to one year old, 450–500 ml. for those five to six years old, then an additional 100 ml. for each year of age up to 17 years. Adults up to 50 years received 1,500–2,000 ml. and those above 50 years 1,000–1,200 ml. 79% were cured and both mature and immature dead worms were passed. The treatment can be repeated after 15–30 days. It is claimed that oxygen is the safest ascaricide known if carefully administered. It also cured 11 out of 12 patients who had been unsuccessfully treated by other anthelmintics. G.I.P.

911—Srpski Arhiv za Tselokupno Lekarstvo. Belgrade.

- a. JOSIPOVIĆ, V., 1954.—[L'infestation massive d'une malade par *Taenia saginata*.] 82 (6), 826–827. [In Serbian: French summary p. 827.]
- b. JOSIMOVIC, I., 1954.—[Deux cas du kyste hydatique à localisation splénique.] 82 (9), 1149–1152. [In Serbian: French summary p. 1152.]

912—Studii si Cercetări de Inframicrobiologie, Microbiologie si Parazitologie. Bucharest.

- a. BONCIU, C., POP, A., HEITMANEK, C., RASMERITA, C., LESCINSKY, S. & MARGINEANU, A., 1954.—“Contribuții la studiul leziunilor produse de *Fasciola hepatica* la cobai.” 5 (3/4), 505–514. [French & Russian summaries pp. 512–514.]

(912a) In the livers of guinea-pigs examined from a rearing establishment in Transylvania where large numbers had died from *Fasciola hepatica* infection three main pictures could be observed: (i) enlarged liver with degenerative, necrotic lesions and fatty degeneration or (ii) with hyperplasia and sclerosis of the connective tissue and (iii) a small liver with hyperplasia of the connective tissue. The hepatic cells presented degenerative lesions, fatty infiltration, deposits of bile pigments and calcareous granules; there was hyperplasia and dilatation of the connective tissue and blood, lymph and bile vessels and chronic cholangitis and pericholangitis. *F. hepatica* was found in the liver in 7 of 15 cases. M.MCK.

913—Surgery. St. Louis.

- a. SHORE, S., LIPPMAN, H. N. & WEBER, R. A., 1954.—“Ascariasis of the common bile duct. Report of a case causing symptoms after cholecystectomy.” 35 (4), 633–634.

914—Suvremenna Meditsina. Sofia.

- *a. DIMCHEV, D., 1954.—[Application of high frequency currents in the treatment of certain types of helminthiasis.] 5 (3), 78–84. [In Russian.]
- *b. YANKOV, N., 1954.—[Case of *Dipylidium caninum* in man.] 5 (4), 82–83. [In Russian.]

915—Svenska Läkartidningen.

- a. ARVIDSSON, S. O., 1954.—“En trichinosepidemi.” 51 (23), 1547–1561.

916—Thérapie. Paris.

- a. THIODET, J., THIODET, JACQUES & BOULARD, C., 1954.—“La chimiothérapie de l'échinococcose.” **9** (6), 668–673.

917—Tidsskrift for den Norske Laegeforening.

- a. NISSEN MEYER, R., 1954.—“*Taenia saginata*.” **74** (12), 424–425.

(917a) Nissen Meyer reports eleven cases of *Taenia saginata* infection dealt with at Bodø (north-west Norway) hospital since 1949. Five of the cases—all women—are thought to have been infected from beef from a single animal. Epidemiology and symptoms are briefly described. Treatment with atabrin was successful with no relapse up to four months—but only in one case was a scolex recovered.

A.E.F.

918—Tierzucht.

- *a. LEESCH, E., 1954.—“Wurmbefall bei Schweinen und seine Bekämpfung.” **8**, 165–166.

919—Tórax. Montevideo.

- a. LARGHERO, P., 1954.—“Tratamiento del quiste hidático del ventrículo izquierdo. Diez observaciones en el Uruguay.” **3** (4), 263–304. [English summary pp. 300–301.]
 b. CASSINELLI, J. F., 1954.—“Significado y alcance de la expresión ‘granuloma hidático’ en la equinococosis pulmonar.” **3** (4), 336–352. [English summary pp. 351–352.]

920—Transactions of the Royal Society of New Zealand.

- a. MANTER, H. W., 1954.—“Some digenetic trematodes from fishes of New Zealand.” **82** (2), 475–568.
 b. INESON, M. J., 1954.—“A comparison of the parasites of wild and domestic pigs in New Zealand.” **82** (2), 579–609.

(920a) Of the 66 species of digenetic trematodes taken from 58 species of fishes in New Zealand 38 are new and five of these are types of new genera, viz., *Alcicornis longicornutus* n.sp. from *Kathetostoma giganteum*; *Lepidapedon congeri* n.sp. from *Leptocephalus conger*; *Lepidapedon australis* n.sp. from *Coelorhynchus australis*; *Holorchis pulcher* n.sp. from *Latridopsis ciliaris*; *Myzoxenus crowcrofti* n.sp. from *Pseudolabrus pittensis*; *Stephanostomum australis* n.sp. from *Chelidonichthys kumu*; *Opecoelus lotellae* n.sp. from *Lotella rhacinus*; *Opegaster caulopsettae* n.sp. from *Caulopsetta scapha*; *Pseudopecoelus hemilobatus* n.sp. from *Cyttus australis*; *Plagioporus preporatus* n.sp. from *Chelidonichthys kumu*; *P. dactylopagri* n.sp. from *Dactylopagrus macropterus*; *P. interruptus* n.sp. from *Pseudolabrus coccineus*; *Plagioporus* (*Caudotestis*) *pachysomus* n.sp. from *Parapercis colias*; *Podocotyle caitnessi* n.sp. from *Leptocephalus conger*; *Helicometra grandora* n.sp. from *Chelidonichthys kumu* and *Helicolenus percoides*; *Coitocaecum tylogonium* n.sp. from *Centriscops humerosus*; *Decemtestis pseudolabri* n.sp. from *Pseudolabrus celidotus*; *Benthotrema richardsoni* n.sp. from *Pelotritus flavilatus*; *Tergestia agnostomi* n.sp. from *Agnostomus forsteri*; *Steringotrema rotundum* n.sp. from *Parapercis colias*; *Deretrema minutum* n.sp. from *Galaxias attenuatus*; *Bivesiculoides otagoensis* n.sp. from *Plagiogeneion rubiginosus*; *Lecithochirium genypteri* n.sp. from *Genypterus blacodes* and *Trachurus novae-zelandiae*; *L. flexum* n.sp. from *Leptocephalus conger*; *Lecithochirium australis* n.sp. from *Thyrstites atun*; *Lecithocladium seriolellae* n.sp. from *Seriolella brama* and *Cyttus australis*; *Stierrhurus lotellae* n.sp. from *Lotella rhacinus*; *Derogenes nototheniae* n.sp. from *Notothenia macrocephala*; *Genolinea dactylopagri* n.sp. from *Dactylopagrus macropterus* and *Latridopsis ciliaris*; *Cardicola coriododacis* n.sp. from *Coriododax pullus*; and *Cardicola whitteni* n.sp. from *Dactylopagrus macropterus*. The five new genera are differentiated as follows: *Neolepidapedon polyprioni* n.g., n.sp. from *Polyprion oxygeneios* and *N. cablei* n.sp. from *Lotella rhacinus* differ from *Lepidapedon* in lacking a membrane around the posterior gland cells of the seminal vesicle. *Lepidapedon hoplognathi* Yamaguti, 1938 and *L. sebastisci* Yamaguti, 1938 are transferred to *Neolepidapedon* as new combinations. In *Proenenterum isocotylum* n.g., n.sp. and *P. ericotylum* n.sp., both from *Notothenia macrocephala*, the caeca

are united (an unusual character in Lepocreadiidae). *Pancreadium otagoensis* n.g., n.sp., from *Paraperca colias* differs from *Homalometron* and *Crassicutis* in having a deeply lobed ovary, large, diagonally placed testes with the excretory vessel winding between the testes. *Brevicreadium congeri* n.g., n.sp. from *Leptocephalus conger* is near to *Diplobulbus* but this opocoeolid genus has extensive vitellaria, longer caeca and lacks a muscular metraterm. *Mitrostoma nototheniae* n.g., n.sp. from *Notothenia macrocephala*, combines the characters of *Genolinea*, *Theletrum* and *Opisthadena* and is unique in possessing an oral lobe anterior to the oral sucker. Manter suggests that both of the genera *Opegaster* and *Opecoelus* should be retained (although they are extremely similar) in order to divide the large number of species, *Opegaster* to accommodate those species in which the vitellaria extend to the anterior edge of the acetabulum or beyond, and *Opecoelus* for those in which the vitellaria do not reach its anterior edge. *Plagioporus crassigulus* and *P. gastrocotylus* are placed in a new genus *Pachycreadium* in which the genital pore is more median, the uterus extends more posteriorly, the body is thick, the pharynx large and there is a muscular development of the body-wall near the acetabulum. An alphabetical list of hosts is given with their respective trematode parasites. Keys are provided for the species of *Opecoelus*, *Pseudopecoelus*, *Plagioporus* (*Plagioporus*), *Decemtestis*, *Tergestia*, *Tubulovesicula* and *Genolinea* and a considerable number of synonyms and new combinations are proposed.

R.T.L.

(920b) Pigs were first introduced into New Zealand in the latter half of the eighteenth century. To-day wild pigs inhabit areas with wide topographical and climatic conditions whereas domestic pigs are bred under comparatively uniform conditions. The helminths found in the 21 wild pigs examined were *Hyoststrongylus rubidus*, *Ascaris suum*, *Cysticercus tenuicollis* (in one which had been in captivity for three months), *Oesophagostomum dentatum*, *Metastrongylus elongatus* and *Choeroststrongylus pudendotectus*. The helminths found in domestic pigs were *H. rubidus*, *Globocephalus urosululatus*, *A. suum*, *Trichuris suis*, *M. elongatus* and *C. pudendotectus*. In the wild pigs both lungworm species were present in larger numbers than in domestic pigs. *Lumbricus rubellus* was successfully infected with both lungworms. In dry surroundings *Ascaris* ova remained viable for at least 40 days at 0.8° to 0°C. and for at least 38 days at 17.3° to 24.7°C. but not at 37°C. In moist faeces the ova did not develop at 37°C.

R.T.L.

921—Treatment Services Bulletin. Ottawa.

- a. BAKISH, M., 1954.—“*Echinococcus granulosus*—family of Taenioidea.” 9 (1), 1-14.

922—Trudi Gel'mintologicheskoi Laboratorii. Akademiya Nauk SSSR.

- a. SKRYABIN, K. I., 1954.—[The present state and prospects of development of Soviet helminthological science in the organization of the Academy of Sciences of the USSR.] 7, 5-18 [In Russian.]
 b. PARAMONOV, A. A., 1954.—[On the structure and function of phasmids.] 7, 19-49. [In Russian.]
 c. PARAMONOV, A. A., 1954.—[An amoeboid organism destroying infective larvae of the root-knot nematode.] 7, 50-54. [In Russian.]

(922b) The taxonomic significance of phasmids is only apparent in their regular association with other characters in the Phasmidia. Paramonov discusses the origin of phasmids and concludes that there are two types, glandular and sensory, and that their primary function was glandular. He also compares phasmids and amphids. Thus the Aphasmidia, which are the more primitive in his opinion, should be the first subclass of nematodes in the classification by Chitwood & Chitwood.

G.I.P.

(922c) Paramonov repeatedly observed attacks on larvae of the root-knot nematode by plasmodial organisms which he obtained from the roots of hot-house tomatoes and which presumably were myxomycetes. These organisms partly or wholly enveloped the larvae and extracted the fat from them, the larvae subsequently dying. *Oigolaimella winchesi* larvae which were also present were not attacked.

G.I.P.

922—Trudi Gel'mintologicheskoi Laboratorii. Akademiya Nauk SSSR. (cont.)

- d. SPASSKI, A. A. & SPASSKAYA, L. P., 1954.—[The construction of a classification of the hymenolepidids parasitic in birds.] **7**, 55–119. [In Russian.]

(922d) Spasski & Spasskaya reclassify the hymenolepidids with three testes in birds. They review López-Neyra's (1942) classification, emend his diagnosis of *Echinocotyle*, *Dicranotaenia*, *Drepanidotaenia*, *Hispaniolepis*, *Microsomacanthus* and *Sphenacanthus* and make 18 new genera. While *Echinocotyle* retains *E. rosseteri*, *E. clerci*, *E. dolorosa*, *E. multiglandularis*, *E. nitida*, *E. skrjabini*, *E. tenuis* and *E. uralensis*, *Nadejdolepis* n.g. is made for *N. nitidulans* (Krabbe, 1882) n.comb. as type and *N. cambrensis* (Davies, 1939), *N. charadrii* (Yamaguti, 1935), *N. lauriei* (Davies, 1939), *N. longirostris* (Rudolphi, 1891) and *N. ? magnisaccis* (Meggett, 1927) as new combinations.

Dicranotaenia retains *D. coronula*, *D. lobata*, *D. mergi* and, temporarily, *D. anceps*, *D. deglandi*, *D. kutassi*, *D. riggenbachii*; also probably *Hymenolepis parvisaccata* Shepard, 1943, which may be a synonym of *D. coronula*. The species of *Dicranotaenia* which occur in terrestrial birds, mainly Passeriformes, are placed in *Variolepis* n.g. as the new combinations, viz., *V. farcimiosa* (Goeze, 1782) as type, *V. bilharzii* (Krabbe, 1869), *V. columbiana* (Fuhrmann, 1909), *V. coroniodes* (Tubangui & Masiluñgan, 1937), *V. crenata* (Goeze, 1782), *V. fernandensis* (Nybelin, 1929), *V. globocephala* (Fuhrmann, 1918), *V. hassalli* (Fuhrmann, 1924), *V. microscolecina* (Fuhrmann, 1906), *V. planestici* (Mayhew, 1925), *V. pycnonoti* (Tubangui & Masiluñgan, 1937), *V. ? victoriata* (Inamdar, 1934), *V. caprimulgorum* (Fuhrmann, 1906) and *V. brasiliense* (Fuhrmann, 1906). The species of *Dicranotaenia* from Charadriiformes are transferred to *Limnolepis* n.g. as the following new combinations: *L. annandalei* (Southwell, 1922) as type, *L. amphitricha* (Rudolphi, 1819), *L. capellae* (Baer, 1940), *L. chionis* (Fuhrmann, 1921) and *L. hamasigi* (Yamaguti, 1940). *Passerilepis* n.g. includes *P. passeris* (Gmelin, 1790) as type *P. brevis* (Fuhrmann, 1906), *P. fola* (Meggett, 1933), *P. hemignathi* (Shipley, 1897), *P. intermedius* (Clerc, 1906), *P. interrupta* (Rudolphi, 1802), *P. oena* (Ortlepp, 1938), *P. parina* (Fuhrmann, 1907), *P. passerina* (Fuhrmann, 1907), *P. pellucida* (Fuhrmann, 1906), *P. petrocinciae* (Krabbe, 1879), *P. spasskii* (Sudarikov, 1950), *P. stylosa* (Rudolphi, 1809), *P. taiwanensis* (Yamaguti, 1935), *P. zosteropis* (Fuhrmann, 1918); *Hymenolepis importata* (Fuhrmann, 1918) apparently belongs to this genus. *Dubininolepis* n.g. includes *D. fuhrmanni* (Skrjabin & Matevosyan, 1942) as type, *D. furcifera* (Krabbe, 1869), *D. japonica* (Yamaguti, 1935), *D. podicipina* (Szymansky, 1905), *D. swiderskii* (Gasowska, 1932), *D. woodsholei* (Fuhrmann, 1932), *D. capillaroides* (Fuhrmann, 1906), *D. multistriata* (Rudolphi, 1810) and *D. capillaris* (Rudolphi, 1810) as new combinations. *Armadoskrjabinia* n.g. includes *A. medici* (Stossich, 1890) n.comb. and possibly *Hymenolepis parviuncinata* (Meggett, 1927) and *H. parvicirrosa* (Meggett, 1927). The subgenus *Dicranolepis* becomes a synonym of *Wardium* (re-established) with the type *W. fryei* and the new combinations *W. aequabilis* (Rudolphi, 1810), *W. clandestina* (Krabbe, 1869), *W. clavicirrus* (Yamaguti, 1940), *W. creplini* (Krabbe, 1869), *W. himantopodis* (Krabbe, 1869), *W. neoarctica* (Davies, 1938), *W. pseudofusa* (Skrjabin & Matevosyan, 1942), *W. recurvirostrae* (Krabbe, 1869), *W. recurvirostroides* (Meggett, 1927), *W. tsendi* (Joyeux & Baer, 1904) and conditionally, *W. musculosa* (Clerc, 1902) and *W. kowalewskii* (Baczynska, 1914). *Oschmarinolepis* n.g. is made for *O. microcephala* (Rudolphi, 1819) n.comb.

Drepanidotaenia retains those species from aquatic birds which agree morphologically with the type *D. lanceolata*, viz., *D. ardeae*, *D. bilateralis*, *D. bisacculina*, *D. curiosa*, *D. elongata*, *D. lobata*, and *D. przewalskii*; but *Bisaccanthes* n.g. is made for *B. bisaccata* (Fuhrmann, 1906) n.comb. and *Tschertkovilepis* n.g. for *T. setigera* (Froelich, 1789) n.comb. of which *Hymenolepis anseris* Skrjabin & Matevosyan, 1942 is now a synonym.

Hispaniolepis now contains *H. villosa*, *H. falsata*, *H. fedtschenkowi* and *H. gwiletica* (Dinnik, 1938) n.comb., *H. hilmyi* (Skrjabin & Matevosyan, 1942) n.comb., *H. tetracis* (Cholodkowsky, 1906) n.comb. and, conditionally, the insufficiently described *H. microps*, *H. francolini* and *H. phasianina*. Species of *Hispaniolepis* with symmetrical segments have been transferred to *Passerilepis*. *H. clerci* (Tseng-Shen, 1933) apparently becomes a synonym of *Microsomacanthus styloides*.

922—Trudi Gel'mintologicheskoi Laboratorii. Akademiya Nauk SSSR. (cont.)

e. SPASSKI, A. A., 1954.—[Classification of the hymenolepidids of mammals.] **7**, 120–167. [In Russian.]

Microsomacanthus retains *M. microsoma*, *M.?* *clerci* (Fuhrmann, 1924), *M. compressa*, *M. diorchis*, *M. fausti*, *M. falcata*, *M. floreata*, *M. pachycephala* and to it are added as new combinations *M. ductilis* (Linton, 1927), *M. fulvicicola* (Skrjabin & Matevosyan, 1942), *M. magniovata* (Fuhrmann, 1918), *M.?* *rectacantha* (Fuhrmann, 1906), *M.?* *styloides* (Fuhrmann, 1906) with its new synonyms *Hymenolepis spinosa* (Linstow, 1906) and apparently *Dicranotaenia vigisi* (Skrjabin & Matevosyan, 1942), *M. trichorhynchus* (Yoshida, 1910), *M. trifolium* (Linstow, 1905) and *M. arcuata* (Kowalewski, 1904) with its synonym *Hymenolepis villosoides* (Solowiow, 1911); while *M. pigmentata* and *M. filirostris* are taken out as insufficiently described.

Of the 43 species of *Sphenacanthus* listed by López-Neyra, those from aquatic birds with aquatic invertebrate intermediaries are retained. To these are added the new combinations *S. giranensis* (Sugimoto, 1934), *S. lari* (Yamaguti, 1940), *S. macracanthissima* (Oschmarin, 1950), *S. aleuti* (Oschmarin, 1950), *S. oshimai* (Sugimoto, 1934) and *S. skrjabini* (Matevosyan, 1945). Other species are placed, as new combinations, in (i) *Flamingolepis* n.g., viz., *F. liguloides* (Gervais, 1847) as type, *F. flamingo* (Skrjabin, 1914) and *F. megalorchis* (Lühe, 1898); (ii) *Octacanthus* n.g., viz., *O. rosenthali* (Mola, 1913) and *O. obvelata* (Krabbe, 1879); and (iii) *Sobolevicanthus* n.g., viz., *S. gracilis* (Zeder, 1803) as type, *S. columbae* (Zeder, 1800), *S. flagellata* (Fuhrmann, 1906), *S. fragilis* (Krabbe, 1869), *S. octacantha* (Krabbe, 1869), *S. octacanthoides* (Fuhrmann, 1906). *Sobolevicanthus* also receives the other new combinations *S. mastigopraedita* (Polk, 1942), *S. papillata* (Fuhrmann, 1906), *S. terraereginae* (Johnston, 1911) and conditionally *S. praeputialis* (Oschmarin, 1950), *Hymenolepis javanensis* (Davis, 1945) and *H. serrata* (Fuhrmann, 1906).

Various other species of *Hymenolepis* are placed in new genera, viz., *Amphipetrovia* n.g. for *A. biaculeata* (Fuhrmann, 1909) n.comb.; *Anatinella* n.g. for *A. meggitti* (Tseng-Shen, 1932) n.comb.; *Australiolepis* n.g. for *A. southwelli* (Szpotanska, 1931) n.comb.; *Dilepidoides* n.g. for *D. bauchei* (Joyeux, 1924) n.comb.; *Echinolepis* n.g. for *E. carioca* (Magalhães, 1898) n.comb.; *Orlovilepis* n.g. for *O. megalops* (Nitsch in Creplin, 1829) n.comb. and *O. glandularis* (Fuhrmann, 1909) n.comb.; *Soricinia* n.g. for *Hymenolepis soricis* (Baer, 1928). The generic position of many other species remains open being either insufficiently described or morphologically disagreeing with the known genera. A key to all the genera dealt with in this paper is given.

G.I.P.

(922e) Spasski reviews hymenolepidids with three testes from mammals and revises the existing genera *Hymenolepis*, *Chitinolepis*, *Cryptocotylepis*, *Gvosdevilepis*, *Hilmylepis*, *Mathevolepis*, *Pseudhymenolepis*, *Vigisolepis*, *Pseudodiorchis* (transferred from *Diorchaea*), *Staphylocystis* in which he makes the new combinations *S. bacillaris* (Goeze, 1782), *S. faculata* (Rausch & Kuns, 1950) and *S. schilleri* (Rausch & Kuns, 1950) and *Rodentolepis* with the new combinations *R. asymmetrica* (Janicki, 1904), *R. crassa* (Janicki, 1904), *R. erinacei* (Gmelin, 1789) and doubtfully *R. criceti* (Janicki, 1904), *R. evaginata* (Barker & Andrews, 1915), *R. microstoma* (Dujardin, 1845), *R. muris-variegati* (Janicki, 1904), *H. pearsei* (Joyeux & Baer, 1930), *R. petrodromi* (Baer, 1933), *R. sinensis* (Oldham, 1929) and *R. uncinispinosa* (Joyeux & Baer, 1930). *Ditestolepaea* n.tribe is made for *Ditestolepis*, *Protogynella*, *Neoskrjabinolepis* with *N. singularis* (Cholodkowsky, 1912) n.comb., and *Soricinia*, which is small, with numerous broad segments, an unarmed scolex and rudimentary rostellum, testes in a transverse line and which forms syncapsules. Spasski made four new genera. *Armadolepis* n.g. for *A. myoxi* (Rudolphi, 1819) n.comb. The suckers and the rostellum each have one row of hooks. The testes are arranged in a triangle. In *Coronacanthus* n.g. for *C. polyacantha* (Baer, 1931) n.comb. the suckers are unarmed but there is a well developed rostellum armed with numerous hooks of apoparaksoid type. The scolex is normal, lacking the large cushion-like swellings seen in *Hilmylepis* and the testes form a triangle. *Myotolepis* n.g. for *M. crimensis* (Skarbilovich,

922—Trudi Gel'mintologicheskoi Laboratorii. Akademiya Nauk SSSR. (cont.)

- f. SPASSKI, A. A., 1954.—[On the question of the independence of the species *Oligorchis nonarmatus* Neiland, 1952 (Cestoda: Hymenolepididae).] **7**, 168–171. [In Russian.]
- g. SPASSKI, A. A., 1954.—[On the position of *Meggittiella* López-Neyra and *Skrjabinolepis* Matevosyan in the classification of the Cyclophyllidae.] **7**, 172–175. [In Russian.]
- h. SPASSKI, A. A., 1954.—[The life-cycle of dilepidids of the genus *Lateriporus* (Cestoda: Dilepididae).] **7**, 176–179. [In Russian.]
- i. SPASSKI, A. A., 1954.—[The subdivision of *Moniezia* into subgenera.] **7**, 180–181. [In Russian.]
- j. SPASSKI, A. A. & OSHMARIN, P. G., 1954.—[A new genus of Hymenolepididae—*Staphylepis* n.g. from domestic and wild fowls.] **7**, 182–184. [In Russian.]

1946) n.comb., has an unarmed scolex with a rudimentary rostellum. It differs from *Cryptocotylepis* in the lack of the noticeable projections between the suckers which, moreover, are round. *Vampirolepis* n.g. for the new combinations *V. skrbabinariana* (Skarbilovich, 1946), *V. balsaci* (Joyeux & Baer, 1934), *V. christensoni* (Macy, 1931), *V. gertschi* (Macy, 1947), *V. decipiens* (Diesing, 1850), *V. grisea* (Beneden, 1873), *V. khalili* (Hilmy, 1936), *V. macclaudi* (Joyeux & Baer, 1928), *V. magnirostellata* (Baer, 1931), *V. neomidis* (Baer, 1931), *V. paramelidarum* (Nybelin, 1917), *V. pipistrelli* (López-Neyra, 1941) and *V. semenovi* (Spasski, 1945). The suckers are unarmed and the rostellum has a single crown of up to 50 hooks. The testes lie in a straight line and the vitelline gland is in a longitudinal line with the median testis, whereas in *Rodentolepis* it lies between the poral and the median testis. A key to all the genera is given. 18 species, which are either insufficiently described or do not fit into the above genera, remain unplaced. G.I.P.

(922f) The cestodes described as *Oligorchis nonarmatus* by Neiland, in 1952, are anomalous specimens of *Hymenolepis horrida* (Linstow, 1901) and they are therefore synonymous. The anomaly consists of an inconstant number of testes per segment which is explained by its occurrence in an unusual host. G.I.P.

(922g) As *Skrjabinolepis* is identical with *Meggittiella* which is a synonym of *Paradilepis*, Spasski makes the following new combinations *P. lloydi* (Southwell, 1926), *P. varicanthos* (Southwell & Lake, 1939), *P. longivaginosus* (Mayhew, 1925), and *P. yorkei* (Kotlan, 1923) n.comb. The two latter combinations had however already been made by Freeman earlier in 1954 [for abstract see Helm. Abs., **23**, No. 31b]. As *Hymenolepis ficticia* does possess seminal vesicles it is also included in *Paradilepis*. G.I.P.

(922h) From the type of strobilization in *Cysticercus pachyacanthus*, the number, size and shape of its hooks and its distribution, Spasski deduces that it is the larval form of *Lateriporus teres* and makes it a synonym. He therefore represents the life-cycle of *L. teres* as follows: eggs passing with the faeces of ducks develop into oncospheres in the water and these when swallowed by *Gammarus* give rise to cysticercoids. The adults develop in ducks when these eat infected *Gammarus*. G.I.P.

(922i) Spasski, finding that specimens of *Moniezia baeri* from the reindeer in the European part of Russia possess interproglottidal glands, transfers this species to the subgenus *Blanchariezia* making *Baeriezia* its synonym. *M. baeri* is morphologically identical with *M. benedeni*. Other species of *Moniezia* previously in *Baeriezia* have as yet not been sufficiently studied and are not put into a new subgenus. G.I.P.

(922j) *Staphylepis* n.g. is made to contain *S. cantaniana* (Polonio, 1860) n.comb. from gallinaceous birds, and is mainly characterized by the unarmed scolex with four suckers and a rudimentary rostellum, the small number of excretory ducts, unpaired genital apparatus and unilateral pores. The testes are in a line, with the vitelline gland between the poral and the median one. The cirrus bursa lacks a stylet and accessory sacs, seminal vesicles are present and the uterus is vesiculate. The nearest genus *Soricinia*, parasitic in insectivores, differs in the structure of the strobila, especially in the ripe segments forming syncapsules. G.I.P.

922—Trudi Gel'mintologicheskoi Laboratorii. Akademiya Nauk SSSR. (cont.)

- k. SPASSKI, A. A. & KASYANOV, I. S., 1954.—[Terrestrial molluscs as intermediate hosts of dilepidids in Kirghizia.] **7**, 185–187. [In Russian.]
- l. SPASSKI, A. A., 1954.—[The oral sucker of nematodes and its adaptive significance.] **7**, 188–191. [In Russian.]
- m. SPASSKI, A. A., 1954.—[On the occurrence of forms with an unpaired uterus among phasmedian nematodes.] **7**, 192–195. [In Russian.]
- n. MOZGOVOI, A. A., 1954.—[On the study of the epizootiology of *Porrocaecum* in aquatic birds.] **7**, 196–199. [In Russian.]
- o. RIZHIKOV, K. M., 1954.—[Reservoir parasitism of helminths.] **7**, 200–214. [In Russian.]
- p. SHUMAKOVICH, E. E. & RIZHIKOV, K. M., 1954.—[A classification of types of reservoir parasitism of helminths.] **7**, 215–216. [In Russian.]
- q. SUDARIKOV, V. E. & OSHMARIN, P. G., 1954.—[A new trematode of birds, *Duboisia skrabini* n.sp.] **7**, 217–219. [In Russian.]

(922k) In the foot-hills of Ala-Tau (Kirghizia), 6% to 8% of *Macrochlamys kasachstani* were found infected with monocercus larval cysts which, from the morphology of their scolex, are placed in Dilepidinae and probably belong to *Liga facilis*. This species is, however, not known to exist in Russia. Alternatively the larval cysts which are figured and described could belong to a species of *Anomotaenia*. G.I.P.

(922l) Spasski holds that the oral muscular organ in *Soboliphyme soricis* is not equivalent to the nematode oral capsule but is an oral sucker and a new adaptive structure for the better attachment in the final host of a worm that has retained its large size. G.I.P.

(922m) Spasski suggests that the presence of unpaired female genital organs in species of Phasmidia is not a primitive feature but is a secondary reduction. G.I.P.

(922n) Discussing the distribution of *Porrocaecum crassum*, its seasonal dynamics, the dependence of infection intensity on the age of the bird hosts and the ways in which infection takes place, Mozgovoi points out that, in Russia, *P. crassum* is most frequent in the south where the infections are highest in May and June, that the infection is greatest in ducks one to three months old and decreases with age and that the worms survive the winter in the intermediate host. G.I.P.

(922o) Rizhikov brings together data from the literature and discusses reservoir parasitism among helminths. He defines the reservoir host as "an animal able to take up infective larvae of helminths and assisting their transference to the final host, not being, however, an obligatory condition for the development of the parasite". G.I.P.

(922p) In view of the different kinds of reservoir parasitism existing among helminths a classification is given which is the outcome of independent attempts by the two authors. (i) Reservoir parasitism as found among biohelminths, where the reservoir occurs between the intermediate and the final host and is always a vertebrate. These they propose to call "bioreceptor" reservoir hosts. This group is subdivided into two types of development: (a) the Alarioid, where the reservoir occurs between the second intermediary and the final host, e.g. *Alaria alata*, and (b) the Spiroceroid, where the reservoir occurs between the first intermediary and the final host, e.g. *Spirocerca lupi*. (ii) Reservoir parasitism as found among geohelminths, where the reservoir may be an invertebrate or vertebrate, occurs between the external medium and final host and is called a "georeceptor" reservoir host. This group is subdivided into two types of development: (a) the Toxocaroid, where the reservoir is a vertebrate, e.g. *Toxocara canis*, and (b) the Syngamoid, where the reservoir is an invertebrate, e.g. *Syngamus trachea*. The most common is type (i) and includes all the known cases of reservoir parasitism among cestodes, trematodes, acanthocephalans and many nematodes. G.I.P.

(922q) *Duboisia skrabini* n.sp., described and figured from *Alcedo atthis* in Russia, differs from *D. syriacus* in the symmetrical arrangement and posterior position of the testes, in the absence of a ventral sucker and in that the ovary does not reach the posterior edge of the small ventral sac, the opening of which is one-third of the length of the body. G.I.P.

922—Trudi Gel'mintologicheskoi Laboratorii. Akademiya Nauk SSSR. (cont.)

- r. IVASHKIN, V. M., 1954.—[Helminths of hares in Mongolia.] 7, 220–225. [In Russian.]
- s. IVASHKIN, V. M., 1954.—[The raising of the subspecies of *Nematodirella longissimespiculata* (Romanovich, 1915) to the rank of independent species.] 7, 226–232. [In Russian.]
- t. KASYANOV, I. S., 1954.—[The determination of the life-cycle of the trematode *Skrjabinotrema ovis* (Brachylaemidae).] 7, 233–257. [In Russian.]
- u. SAIDOV, Y. S., 1954.—[A parasite of Acipenseridae—*Cystoopsis acipenseris* and its position in the nematode classification.] 7, 258–264. [In Russian.]
- v. SAIDOV, Y. S., 1954.—[New species of parasitic worms of ichthyophagous birds in Daghestan.] 7, 265–273. [In Russian.]

(922r) All the four nematode species found in 12 out of 14 hares are new for Mongolia; they are *Trichuris leporis* in *Lepus timidus*, and *Dermatoxys veligera*, *Micipsella numidica* and *Nematodirus petrovi* n.sp. in *L. tolai*. *N. petrovi* differs from the known species of the genus, except *N. aspinosus*, in the absence of the slender terminal tail appendage, and from *N. aspinosus* in the size of the spicules (0.8–0.92 mm. long) which lack distal lateral processes. The measurements of the specimens of *M. numidica* are compared with those given in the literature for this species from other species of *Lepus*. G.I.P.

(922s) *Nematodirella longissimespiculata alcidis* Dikmans, 1935, *N. l. gazelli* Sokolova, 1948 and *N. l. antilocaprae* Price, 1927 are each raised to specific rank, with a key to their differential diagnosis. *N. longissimespiculata* Romanovich, 1915 which has priority over *N. longispiculata* Yorke & Maplestone, 1926 was re-established by Skryabin & Shikhobalova in 1952. G.I.P.

(922t) Kasyanov has studied experimentally the life-cycle of *Skrjabinotrema ovis*; development took 87–92 days under favourable conditions. Eggs passing in the sheep faeces contain fully developed miracidia which hatch only in the terrestrial mollusc *Macrochlamys kasachstani* and give rise to branched sporocysts. Cercariae begin to leave the snail 24 days after infection and remain viable for up to three days. The metacercariae overwinter in the second intermediate hosts, i.e. *M. kasachstani*, *Succinea martensiana*, *Subzebrinus ferganensis*, *S. labiellus*, *S. eleonare*, *Sewertzowia dissimilis* and *Helicella candacharica*. Mature worms develop 27–30 days after the sheep have swallowed infected snails. G.I.P.

(922u) Saidov, reviewing the morphology of *Cystoopsis acipenseris* in relation to its systematic position, concludes that Cystoopsidae represent a distinct branch of Trichocephalata and places it in a new superfamily Cystoopsioidea. G.I.P.

(922v) Three new trematodes and the hitherto unknown male of the nematode *Skrjabinocara squamata* are described and figured from birds in Daghestan [in the Caucasus]. *Tanaisia integerriorcha* n.sp., in *Sterna hirundo*, *Chlidonias niger* and *C. hybrida*, differs from other species of this genus by its round ovary and unlobed testes. In *Galactosomum agrachanensis* n.sp., from *C. hybrida* the gut caeca reach only to the end of the last testis, the eggs measure 0.025 × 0.01 mm. and the vitellaria are small groups of unequally sized grains and stretch on the outside of the caeca from the seminal vesicle posteriorly, where they spread over the whole body width; whereas in *G. humbargari*, the nearest species, the caeca reach to the end of the body, the eggs measure 0.022 × 0.014 mm. and the scattered spherical vitellaria lie between the caeca and stretch only to the ovary. *Opisthorchis altaevi* n.sp., in *Ardea purpurea*, is 5–7 mm. long, with a smooth ovary, with the anterior larger than the ventral sucker and the vitellaria reaching only to the ovary; in the larger *O. longissimus* the ovary is lobed, the suckers are equal or the ventral one is larger, the vitellaria reach to the testes and the terminal, unpaired excretory canal is longer. G.I.P.

922—Trudi Gel'mintologicheskoi Laboratorii. Akademiya Nauk SSSR. (cont.)

- w. SPASSKAYA, L. P., 1954.—[On the question of the significance of the seasonal migration of birds in the spreading of helminths. From material collected by the 257th Helminthological Expedition of the Academy of Sciences of USSR.] **7**, 274-276. [In Russian.]
- x. BELOUS, E. V., 1954.—[On the systematics of the trematodes of the family Haploporidae Nicoll, 1914.] **7**, 277-281. [In Russian.]
- y. POLOZHENTSEV, P. A., 1954.—[Helminths of insects (Nematoda and Gordiacea). A review of the literature.] **7**, 282-303. [In Russian.]
- z. TSVETAeva, N. P., 1954.—[Pathology of the early stages of ascariasis of chickens.] **7**, 304-319. [In Russian.]
- ba. PETROV, A. M. & SPASSKI, A. A., 1954.—[Cestodes—*Mesocostoides* of domestic and wild animals.] **7**, 320-330. [In Russian.]
- bb. PETROV, A. M. & IVASHKINA, E. E., 1954.—[*Lissonema mongolica*—a new filaria from *Otis tarda* L.] **7**, 331-334. [In Russian.]
- bc. PETROV, A. M. & KROTOV, A. I., 1954.—[The discovery of *Dirofilaria ursi* Yamaguti, 1941, in the subcutaneous tissue of a bear.] **7**, 335-336. [In Russian.]

(922w) For the study of the parasites of migrating animals, Spasskaya has supplemented the idea of the "area of geographical distribution" with the "zone of infection" which denotes that part of the area of distribution where infection of intermediate and final hosts occurs. She believes that the acceptance of this concept will reveal the areas of importance and therefore enable these parasites to be placed in one or other of the zoogeographical regions and thus aid in their control. From this point of view she has analysed the helminth fauna of 103 bird species caught in their nesting places near Lake Chany just before their departure to wintering places.

G.I.P.

(922x) *Skrjabinolecithum spasskii* n.g., n.sp. is described and figured from *Mugil so-iuy* in the river Suifun (Maritime territory, Siberia). It differs from other genera of Haploporidae for the uterus lies between the genital bursa and the testes, the vitellaria have the shape of coiled bands and the unhatched miracidia lack pigment spots. In view of great similarity between the new species and *Waretrema piscicola*, the latter is transferred to Haploporidae, making Waretrematidae synonymous. Haploporidae is divided into Haploporinae n.subf. for *Haploporus*, *Saccocoelium*, *Lecithobotrys* and *Dicrogaster*, and Waretrematinae n.subf. for *Skrjabinolecithum* and *Waretrema*.

G.I.P.

(922z) The early stages of experimental *Ascaridia galli* infections in chicks have been investigated. Half-an-hour after infection larvae were present in the mucosa of the duodenum and beginning of the small intestine and after one to two hours throughout the small intestine (preferentially in the middle part). On about the 19th day the young *Ascaridia* began to pass into the intestinal lumen. The weight of the chicks continued to increase in the first week of infection at the end of which the first clinical symptoms appeared and weight was lost (3 gm. to 118 gm. per chick in two weeks). The histological changes, first apparent five days after infection, were studied in detail and are illustrated. The length of eleven-day-old larvae resulting from re-infection was 0.412 mm. as compared with 2.734 mm. in the primary infection.

G.I.P.

(922ba) Petrov & Spasski, taking their data from the literature, discuss the life-cycle of *Mesocostoides lineatus*, its pathogenic significance in the adult and larval stage, and the diagnosis and therapy of the infection.

G.I.P.

(922bb) *Lissonema mongolica* n.sp. is described and figured from *Otis tarda* in the Gobi Desert (Mongolia). It differs from *L. rotundata*, *L. vaba* and *L. striata* in having unequal spicules and from *L. laeviculis*, *L. matronensis* and *L. crassa* in having larger spicules (0.63-0.68 mm. and 0.82 mm. long).

G.I.P.

(922bc) Material from *Ursus arctos beringianus* in Sakhalin Island contained both females and males of *Dirofilaria ursi*; these are described and figured, the latter for the first time [but see also Helm. Abs., 21, No. 530a].

G.I.P.

922—Trudi Gelmintologicheskoi Laboratorii. Akademiya Nauk SSSR. (cont.)

- bd. PETROV, A. M. & CHERTKOVA, A. N., 1954.—[Nematode fauna of bats in Uzbekistan.] **7**, 337–342. [In Russian.]
- be. SHULTS, R. S. & KADENATSII, A. N., 1954.—[Characteristics of the trichostrongylid, *Spiculoptera alcis*, from elk and roe-deer.] **7**, 343–345. [In Russian.]
- bf. KURASHVILI, B. E. & RODONAYA, T. E., 1954.—[Acanthocephala of cattle.] **7**, 346–348. [In Russian.]
- bg. MOSKALEV, B. S., 1954.—[On the question of the independence of a species of *Ascaris* from river beavers.] **7**, 349–350. [In Russian.]
- bh. RONZHINA, G. I., 1954.—[Investigation of the possibility of the development of the larval stages of *Multiceps multiceps* in rodents.] **7**, 351–354. [In Russian.]
- bi. BABADZHANOV, S. N., 1954.—[Helminth antigens and their role in immunity.] [Abstract of thesis.] **7**, 355–360. [In Russian.]
- bj. BOEV, S. N., 1954.—[Pulmonary nematodes and nematode diseases of ruminants in Kazakhstan.] [Abstract of thesis.] **7**, 360–364. [In Russian.]
- bk. BURDZHANADZE, P. L., 1954.—[Details of the campaign against the more important helminths of sheep kept on pasture in the Georgian SSR.] [Abstract of thesis.] **7**, 364–368. [In Russian.]

(922bd) Two species of nematodes are described from bats in Uzbekistan; (i) *Strongylacantha glycirrhiza* from *Rhinolophus ferrum-equinum* and *R. bocharicus*, which is reported for the first time for Russia, and (ii) *Litomosa skarbilovitchi* n.sp. from *R. bocharicus*, which differs from the four known species of *Litomosa* by the considerably larger spicules (0.541–0.574 mm. and 0.147–0.151 mm.) and the position of the vulva which opens some distance below the oesophagus. G.I.P.

(922be) *Spiculoptera alcis* Shults, Kadenatsii, Evranova & Shaldibin, which was first named in volume three of Skryabin's "Descriptive Catalogue of Parasitic Nematodes" in 1952, where it appeared in a list of the ten species of this genus, is now described and figured. G.I.P.

(922bf) A specimen of *Macracanthorhynchus hirudinaceus*, a common parasite of pigs, was found in the intestine of a cow in Georgia (Russia) and is considered to be a facultative parasite of cattle. This is the first record of an acanthocephalan in cattle. G.I.P.

(922bg) *Ascaris castoris*, recorded but not described by Rudolphi in 1819, is now described from *Castor fiber* in the Voronezh Preserve. Although it is morphologically very near to *A. suum* and *A. lumbricoides*, it is considered to be an independent species on the grounds of its host specificity and its characteristic oecology. G.I.P.

(922bh) Experimental infection with oncospheres of *Multiceps multiceps* obtained from dogs was not successful in earless marmots or in rabbits, but became established in control lambs and goats. These rodents, therefore, are not intermediate hosts of *M. multiceps* and cannot be a source of infection to domestic and wild carnivores. G.I.P.

(922bi) Helminth antigens prepared by a modification of Boivin & Mesrobian's method for bacteria are characterized by a high (70–80%) polysaccharide content, mainly glucose and containing glucosamine and amino-acid compounds, and the lack of the lipid component. A lethal dose of the *Ascaris* antigen for mice was 75 mg. in 1 c.c. of physiological solution. Three to four injections of various amounts, at weekly intervals, of *Ascaris* antigen given to guinea-pigs and man and of *Taenia saginata* antigen to calves produced immunity to subsequent infection. The antigens are specific and can be successfully used for the diagnosis of the infection in precipitin and complement fixation tests, giving a 1:100,000 reaction. Repeated introduction of the antigens produced antileucopenic immunity. G.I.P.

(922bj) This appears to be a short review of the author's work on the systematics of protostrongylids of ruminants in Kazakhstan, and on their occurrence and treatment. G.I.P.

(922bk) The seasonal dynamics are discussed for the helminth infections prevalent among sheep in the Georgian SSR, where the sheep are grazed throughout the year and become heavily infected during the seven-month period on the winter pasture. Suitable control measures for this region are suggested. G.I.P.

922—Trudi Gel'mintologicheskoi Laboratorii. Akademiya Nauk SSSR. (cont.)

- bl. SHUMAKOVICH, E. E., 1954.—[General epizootiology of helminths of farm animals.] [Abstract of thesis.] 7, 368–373. [In Russian.]
- bm. ALOYAN, M. G., 1954.—[The nematode fauna of rodents in Armenia.] [Abstract of thesis.] 7 373–375. [In Russian.]
- bn. AKHMEDOVA, S. I., 1954.—[The influence of the host on the morphological and biological characteristics of some nematodes of birds.] [Abstract of thesis.] 7, 375–377. [In Russian.]
- bo. GEVONDYAN, S. A., 1954.—[Some principles of the course of muelleriasis in sheep as dependent on the physiological conditions of the final and intermediate hosts.] [Abstract of thesis.] 7, 378–380. [In Russian.]
- bp. GUBANOV, N. M., 1954.—[The helminth fauna of animals of economic importance from the Sea of Okhotsk and the Pacific Ocean.] [Abstract of thesis.] 7, 380–381. [In Russian.]

(922bl) Shumakovich discusses generally Skryabin & Shults' classification of biological types of helminths, the ways in which animals become infected, their resistance to infection, factors influencing the distribution of helminths and the course and dynamics of helminth infections. G.I.P.

(922bm) Of the 41 nematodes from 17 species and 2 subspecies of rodents in Armenia listed under their hosts, eight are new host records and eleven are recorded for the first time for this region. G.I.P.

(922bn) Geese, ducks and chickens were experimentally infected with *Amidostomum anseris* and *Heterakis gallinae*. *A. anseris* infected all the geese, producing an intensity of infection of 64.55% after one month. It infected all the ducks but the size of the worms was reduced and the infections were lost after 97 days. *A. anseris* is therefore a "primary" obligatory parasite of geese and a "secondary" obligatory parasite of ducks. Chickens did not become infected. *H. gallinae* infected all chickens and geese and is a "primary" obligatory parasite of chickens, a "secondary" obligatory parasite of geese but a facultative parasite of ducks. Two months after infection the intensities were 71.2% in chickens, 62% in geese and 9.26% in ducks. The worms reached maturity after 36–44 days in chickens, 54–58 days in geese where they were much smaller, and did not mature in ducks. G.I.P.

(922bo) Gevondyan having experimentally studied the course of muelleriasis in sheep, distinguishes a summer type of larva which develops in active molluscs and a winter type which develops in resting and starving molluscs and is less pathogenic. The prepatent period was not dependent on the size of infection or age of the sheep and lasted 46–59 days in sheep infected with summer larvae but 109–132 days (often not leading to maturity) in sheep infected with winter larvae. A decrease in weight was observed only after infection with summer larvae. Lambs which had recovered from the infection were 10–14 kg. under weight. The precipitin reaction with live larvae appeared five to eight days after infection with summer larvae and increased in strength depending on the condition of the host. A weak reaction appeared 10–28 days after infection with winter larvae. The reaction proved specific and was sensitive even to single third-stage larvae in the lungs. It ceased 10–20 days before the death of the sheep and remained positive (with interruptions) throughout the latent period. The latent period was due to the presence of latent adults in the lungs and was terminated when green fodder was given to sheep for three to nine days. G.I.P.

(922bp) During 1950–52, 96 mammals, 97 birds and 39 fishes were examined from the Sea of Okhotsk and the Pacific Ocean. Of the 98 helminth species found 17 are, in the abstract of the thesis, listed without descriptions as new to science, viz., *Placentonema gigantissima* n.g. n.sp., *Haxagonoporus physeteris* n.g., n.sp., *Tetrabothrius kurilensis* n.sp., *Zalophotrema kurilensis* n.sp., *Corynosoma kurilensis* n.sp. and *Bolbosoma physeteris* n.sp. in *Physeter catodon*; *Trigonocotyle spasskyi* n.sp. in *Orca orca*; *T. paruchini* n.sp. in *P. catodon* and *Hyperoodon rostratus*; *Delamurella hyperoodoni* n.g., n.sp. in *H. rostratus*; *Renicola fulmari* n.sp. in *Fulmarus glacialis*; *Microparyphium shigini* n.sp. in *Uria lomvia*; *Chandlerella shaldybini* n.sp. in *Phalacrocorax urile*; *Liliatrema sobolevi* n.g., n.sp. in *P. urile* and *P. pelagicus*; *L. skrjabini* n.g., n.sp. in *P. urile*, *P. pelagicus*, *Cephus carbo* and *Larus argentatus*; *Neophasis ochotensis* n.sp. in *Hexagrammos octogrammus*; *Arhythmorhynchus tringi* n.sp. in *Tringa incana* and *Calidris minuta*; and *Tetrameres gushanskyi* n.sp. in *C. alpina*, *C. melanotus* and *Capella gallinago*. G.I.P.

922—Trudi Gel'mintologicheskoi Laboratorii. Akademiya Nauk SSSR. (cont.)

- bq. DOTSENKO, T. K., 1954.—[Parasitic worms of domestic birds of Primorye Territory and the biology of *Cheilosporira hamulosa*.] [Abstract of thesis.] 7, 382–383. [In Russian.]
- br. KARABAEV, D., 1954.—[The dynamics of helminthiases of sheep in the Bet-pak-dala Steppe's system of rotational grazing.] [Abstract of thesis.] 7, 383–385. [In Russian.]
- bs. POKUDIN, A. A., 1954.—[Changes in the blood sugar of Astrakhan sheep caused by fascioliasis.] [Abstract of thesis.] 7, 386–388. [In Russian.]
- bt. SADOVSKAYA, N. P., 1954.—[Parasitic worms of rodents and insectivores in Primorye Territory.] [Abstract of thesis.] 7, 388–390. [In Russian.]
- bu. SPASSKAYA, L. P., 1954.—[Helminth fauna of birds from the Barabinsk Steppe. (From material collected by the 257th Soviet Helminthological Expedition).] [Abstract of thesis.] 7, 390–392. [In Russian.]

(922bq) In the Maritime Territory 92.3% of fowls, 74.75% of ducks and 79.5% of geese were infected with helminths. Of the 44 species found in 525 poultry 39 [not named in the abstract of thesis] were new for the territory while the four species, apparently new, described in the thesis are *Mesorchis skrjabini* n.sp. and *Plagiorchis brevipharynx* n.sp. from domestic fowl, *Ornithodendrium imanensis* Oshmarin & Dotsenko, 1950 from domestic fowl, *Oriolus sinensis* and *Corvus corone*, and *Echinocasmus beleocephalus chankensis* Oshmarin & Dotsenko, 1951 from domestic duck and fowl, *Anas platyrhynchos* and *Ardea cinerea*. The life-cycle of *Cheilosporira hamulosa* is given [see also Helm. Abs., 22, No. 26d.] G.I.P.

(922br) [This is essentially the same as the paper which appeared in *Papers on Helminthology presented to Academician K. I. Skryabin on his 75th birthday*. Moscow: Izdatelstvo Akademii Nauk SSSR, pp. 284–287. For abstract see Helm. Abs., 22, No. 996bq.]

(922bs) Pokudin has investigated the effect of fascioliasis on the nervous system, blood picture, level of blood sugars, functional condition of the liver and other factors in Astrakhan sheep in Uzbekistan SSR, where the infection causes considerable losses to sheep farming. The sugar level of the blood in normal and in infected sheep falls during winter and early spring and is dependent on food quantity, general condition and, in infected sheep, also on infection intensity. Hypoglycaemia, varying between 32 and 88 mg.%, was observed in infected sheep and death occurred on its increase. The experimental results indicate severe interference with hydrocarbon metabolism and the sugar storing function of the liver. G.I.P.

(922bt) Work during 1948–1951 in the Maritime Territory included the autopsy of 48 insectivores (8 species), of which 78.3% were infected with helminths, and 574 rodents (14 species), of which 75.09% were infected. The helminth fauna was, on the whole, specific to the territory. Of the 88 helminth species found the following were given as new in the thesis but are not described in the author's abstract: *Sorexegliphe suifunensis* n.g., n.sp. and *Mammanidula asperocutis* n.g., n.sp. in *Sorex* sp.; *Mathevolepis globosus* n.sp. and *Simuterilepis diglobovari* n.g., n.sp. in *Sorex* sp. and *S. macropygmaeus*; *Simuterilepis spasskyi* n.sp. and *Echinoproboscilepis kedroviensis* n.g., n.sp. in *Sorex macropygmaeus*; *Neoskrjabinolepis octo-hamulus* n.sp. in *S. unguiculatus*; *Neoheligionoides latispiculum* n.g., n.sp. in *S. mirabilis*; *Angiostrongylus pulmonalis* n.sp. in *Sorex* sp. and *S. minutus*; *Heligionella pusillaspirura* n.sp. in *Sorex* sp. and *Crocidura lasiura*; *H. jugatispiculum* n.sp. in *Sorex* sp., *S. minutus* and *C. lasiura*; *Plagiorchis nedbailovi* n.sp. and *Vigisolepis novica* n.sp. in *C. lasiura*; *Ascaris brevispiculum* n.sp. in *Apodemus agrarius*; *Heligionoides vladimiri* n.sp. in *A. agrarius*, *A. speciosus* and *Microtus michnoi*; *Fibricola sudarikovi* n.sp. in *A. agrarius*, *Ondatra zibethica* and *Cricetulus triton nestor*; *Longistriata mogera* n.sp. in *Mogera robusta*; *L. kurenzovi* n.sp. in *Lepus timidus* and *L. mantschuricus*; and *Rictularia quinqueflabellum* n.sp. in *Clethrionomys rutilus*. G.I.P.

(922bu) Spasskaya has studied helminth infections in relation to the diet of birds from near Lake Chany. Nematodes were most frequent among carnivorous (50–65%) and omnivorous (44.7%) birds, of the former the most highly infected were fish-eating birds (66.67%); while birds with insect, plant-insect and grain-insect diets were less infected (6.59%, 36.7% and 3.8% respectively). The type of the nematode fauna of various birds was dependent on their systematic proximity and tropho-oecologic conditions. Thus the members of a given nematode genus are found in birds of the same order, or in birds phylogenetically unrelated but with the same diet. Examples are cited. G.I.P.

922—Trudi Gel'mintologicheskoi Laboratorii. Akademiya Nauk SSSR. (cont.)

- bv. SKALINSKI, E. I., 1954.—[The migration of larvae of *Delafondia vulgaris* and the pathological lesions caused by them in the horse.] [Abstract of thesis.] 7, 392–393. [In Russian.]
 bw. SHEVTSOV, A. A., 1954.—[Helminthiases of domestic ducks and their causative agents.] [Abstract of thesis.] 7, 394–395. [In Russian.]

(922bv) In *Delafondia vulgaris* infections of the horse three phases of migration can be distinguished after the larvae have reached the wall of the large intestine: (i) arterial migration against the blood stream, (ii) the larvae becoming fixed in thrombi and (iii) the passing of moulted larvae from these into the intestinal lumen. There follows a description of the positions reached by larvae in the arteries various numbers of days after experimental infection of foals. The majority of the larvae migrate in the mesenteric arteries and near the abdominal aorta. Those reaching the liver, lymph nodules and, possibly, the lungs die after formation of parasitic nodules. The migration of the larvae leads to thrombosis and to pathological changes in the nerve cells. *Delafondia* extracts have a toxic effect on the horse causing symptoms typical of colic. G.I.P.

(922bw) Shevtsov's monograph gives descriptions and, where available, the biology of the 144 known helminth species of domestic ducks, 80 of which occur in Russia. The morphology, distribution in Russia and various aspects of the diseases caused by the more important species are dealt with. 1,104 ducks from various parts of Russia were autopsied and among the 41 species found three, viz., *Hypoderaeum gnedini*, *H. vigi* and *Hystrichis varispinosus* are recorded for the first time in ducks. G.I.P.

923—Trudi Glavnogo Botanicheskogo Sada.

- a. SAAKYAN-BARANOVA, A. A., 1954.—[Pests of hot-house plants.] 4, 7–41. [In Russian.]
 b. VASILEVSKI, A. P., 1954.—[Methods of controlling stem nematodes on phlox.] 4, 178–182. [In Russian.]

(923a) This account of the pests of hot-house plants includes brief notes on *Aphelenchoides olesistus*, *A. ritzeana-bosi*, *Ditylenchus dipsaci* and *Meloidogyne*. G.I.P.

(923b) Three waterings with a 0.2% emulsion of "NIUIF-100" under the roots of phlox plants and a single spray of the plant with 0.1% emulsion gives good results against the stem nematode. The removal of infected shoots twice during the first half of the vegetative growth period considerably reduces the infection. G.I.P.

924—Trudi Instituta Veterinari. Akademiya Nauk Kazakhskoi SSR.

- a. KOZHAKIN, S. K., 1954.—[Present-day problems of veterinary parasitology.] 6, 417–426. [In Russian.]
 b. SHULTS, R. S. & BOEV, S. N., 1954.—[Problems in the eradication of helminths.] 6, 427–435. [In Russian.]
 c. SHULTS, R. S. & BOEV, S. N., 1954.—[Means of eradicating helminths.] 6, 436–467. [In Russian.]
 d. SHULTS, R. S. & ANDREEVA, N. K., 1954.—[Some rules of immunity to helminths.] 6, 468–491. [In Russian.]
 e. SHULTS, R. S., 1954.—[Parasitism: a critical survey.] 6, 492–507. [In Russian.]
 f. BOEV, S. N. & IVERSHINA, E. M., 1954.—[Seasonal dynamics of *Dictyocaulus* infestation in cattle, and the optimum season for anthelmintic treatment in Kazakhstan.] 6, 508–513. [In Russian.]
 g. BOEV, S. N., 1954.—[Anthelmintic treatment in the control of *Dictyocaulus* infestation in sheep in Kazakhstan.] 6, 514–529. [In Russian.]
 h. BOEV, S. N., SHULTS, R. S., BONDAREVA, V. I. & IVERSHINA, E. M., 1954.—[Large scale experiment in the use of phenothiazine in curing sheep of nematode disease.] 6, 530–534. [In Russian.]
 i. BONDAREVA, V. I., BOEV, S. N. & IVERSHINA, E. M., 1954.—[Continuous and interrupted administration of phenothiazine to sheep infested with adult nematodes.] 6, 535–538. [In Russian.]
 j. SHULTS, R. S. & BONDAREVA, V. I., 1954.—[Problems of phenothiazine treatment of horses infested with adult strongyles.] 6, 539–552. [In Russian.]

- k. SHULTS, R. S. & NAMASKULOVA, Z. N., 1954.—[Treatment of adult strongyles in horses with phenothiazine.] **6**, 553–559. [In Russian.]
- l. SHULTS, R. S. & BONDAREVA, V. I., 1954.—[Is it necessary to isolate animals following treatment with phenothiazine?] **6**, 560–564. [In Russian.]
- m. BOEV, S. N. & REDKO, A. S., 1954.—[Prevention of dictyocauliasis and trichostrongyliasis in sheep by providing free access to phenothiazine-salt mixture.] **6**, 565–568. [In Russian.]
- n. BOEV, S. N. & OKOROKOV, M. N., 1954.—[Comparative efficacy of continuous and interrupted feeding of phenothiazine-salt mixture to sheep in field experiments.] **6**, 569–571. [In Russian.]
- o. CHEREDNIKOVA, M. S., 1954.—[Data on coenuriasis in sheep in the Chilik district of the Alma-Ata region.] **6**, 572–574. [In Russian.]
- p. BONDAREVA, V. I., 1954.—[Efficacy of Lentin against *Taenia* in dogs.] **6**, 575–577. [In Russian.]
- q. BONDAREVA, V. I., 1954.—[Experiments in investigating new anthelmintics against cestodes in dogs.] **6**, 578–584. [In Russian.]
- r. BONDAREVA, V. I. & CHEREDNIKOVA, I. S., 1954.—[Treatment of *Coenurus* infestation in sheep by the subarachnoidal injection of uroichthyol.] **6**, 585–588. [In Russian.]
- s. KRIVOLUTSKAYA, G. O., 1954.—[Oribatid mites of the family Galumnidae on pastures in Southern Kazakhstan.] **6**, 589–609. [In Russian.]

(924d) Using results from their own experiments and from the Russian literature on larval cestode infections, Shults & Andreeva discuss, at length, factors influencing the intensity of infections, the varying development of the parasite as an indication of the immunological state of the host and the susceptibility or resistance of individual animals to infection. G.I.P.

(924e) Shults analyses definitions of parasitism put forward by various authors and discusses factors underlying these definitions such as the extent of the interrelation between host and parasite, the degree of isolation of the parasite from its surroundings, its feeding on the host and the harmful effects of the host and parasite on one another. G.I.P.

(924f) In Kazakhstan the peak of *Dictyocaulus* infection of cattle occurs in the south-west during the winter to spring period; in the north there are two equal peaks, one in the spring and one in the autumn, in the north-east the autumn peak being higher. Therapeutic treatment should be given in the peak periods of each area, while prophylactic treatment should occur in late autumn in the south-west and in late summer in the north and north-east. G.I.P.

(924g) Intratracheal injection of iodine solution decreased mortalities among sheep with *Dictyocaulus* and secondary bacterial infection, but was ineffective against larval *Dictyocaulus*. In Kazakhstan, curative and prophylactic measures should be applied in summer and autumn for lambs, and in winter and early spring for sheep born the previous year and before. For the prophylactic treatment two to three repeated injections should be given. G.I.P.

(924h) Phenothiazine treatment of a large number of sheep with intestinal nematodes gave the expected results; there was a greater weight increase in the animals and no more deaths occurred. Over a period of three months the average weight increase varied from 11.98–14.90 kg. for treated sheep, 16.55–18.20 kg. for treated lambs and only 10.68 kg. for control lambs. G.I.P.

(924i) The best results of the phenothiazine treatment of sheep with 1 gm. per day over a period of 71 days were obtained by continuous daily dosing. The strongyle egg-count fell by 80%. Dosing every other week was followed by a decrease of 66% and dosing for fortnightly periods separated by a fortnight's rest was followed by a decrease of 56%. G.I.P.

(924j) The optimum single dose of phenothiazine against strongyles was 20–40 gm. for horses and 12 gm. for foals weighing 150 kg. Daily doses of 10–15 mg. per kg. body-weight reduced the egg-count after two to three doses but sometimes only after 10 to 17 doses. The minimum effective dose was 5 mg. per kg. During dosing the egg-count varied from nought to 200 with occasional jumps to 480, and only 0.13%–18% of these eggs developed into infective larvae as compared with 6%–74% before dosing. This low egg output persisted

for $2\frac{1}{2}$ to more than eight weeks after treatment, apparently depending on the season and possible reinfection. The recommended course of treatment is a first single dose of 10–15 gm. per horse followed by daily dosing with 5 mg. per kg. for two to three weeks. G.I.P.

(924k) Among the modifications of repeated phenothiazine administration to horses, the most economical and effective against strongyles was continuous daily dosing with 5 mg. per kg. of body-weight. After 11 to 17 doses the egg-count was 0–100 eggs per gm. of faeces. G.I.P.

(924l) Shults & Bondareva confirm that horses need not be isolated after treatment with phenothiazine against strongyles. G.I.P.

(924m) Following free feeding of a 1:9 phenothiazine-salt mixture to lambs throughout the pasturing period, the intensity of *Dictyocaulus* infection was six times less and of tricho-strongylid infections three times less than in the controls. One ton more meat and 1.5 centners [75 kg.] more fat were produced by 500 animals. The mixture was ineffective against *Trichuris* and *Skrjabinema*. G.I.P.

(924n) Continuous feeding of a 1:9 phenothiazine-salt mixture to sheep was more effective against *Dictyocaulus* and intestinal strongyles than feeding of the mixture on alternate weeks and resulted in a greater increase in weight and wool production. G.I.P.

(924o) Of the sheep examined for *Coenurus* in the Chilik district during 1949–51 one cyst only was found in 93%, two in 6%, three in 0.15%, four in 0.1%, seven in one sheep and eight in another. The cysts found were equally divided among the two hemispheres and the middle area of the brain (each about 32%) and only 3% were found in the cerebellum. The majority of sheep became infected in their first year of life. The highest infections in the district occurred from December to March. G.I.P.

(924p) Lentin (carbamylocholine chloride) is ineffective against taeniasis in dogs but stimulates peristalsis of the gut and might prove useful when applied in conjunction with other anthelmintics to increase their efficiency. G.I.P.

(924q) Four anthelmintics were tested against cestodes in dogs. Arecoline cured the 15 dogs treated and acted on mature and immature *Taenia hydatigena*. The intens-efficacy of pumpkin seeds was 85% (0–100%) and of filicilin 38%, however 63.7% of the strobilae passing due to filicilin were without scolices. Acridine and lead arsenate were only slightly effective and the latter was also very toxic. An increase of the hunger diet period before treatment to $1\frac{1}{2}$ or 2 hours did not increase efficacy. G.I.P.

(924r) Subarachnoidal injection of uroichthyl (a mixture of ichthylol and urotropine) by Miklashevski's method was not effective against *Coenurus* cysts and the 30 treated sheep died 20–30 minutes to three months after the injection. G.I.P.

925—Trudi Instituta Zoologii i Parazitologii. Akademiya Nauk Uzbekskoi SSR.

- *a. TULAGANOV, A. T., 1954.—[Injurious nematodes of cultivated plants in Uzbekistan.] 3, 85–97. [In Russian.]

926—Trudi Kazanskogo Nauchno-Issledovatel'skogo Veterinarnogo Instituta.

- a. FUNNIKOVA, S. V. & KARPEEV, S. A., 1954.—[The epizootiology of *Setaria* infection of horses in the N.W. regions of the Tatar A.S.S.R.] No. 12, pp. 291–294. [In Russian.]
- b. FUNNIKOVA, S. V., 1954.—[Study of the blood of horses infested with *Setaria*.] No. 12, pp. 295–306. [In Russian.]
- c. FUNNIKOVA, S. V., 1954.—[Helminths of the musk-rat acclimatized to the Tatar A.S.S.R.] No. 12, pp. 307–310. [In Russian.]
- d. FUNNIKOVA, S. V., 1954.—[Differential diagnosis of larvae of *Onchocerca* from horses.] No. 12, pp. 311–320. [In Russian.]
- e. GOVERDOVSKAYA, K. T. & SHISHKINA, K. A., 1954.—[Microfilariae in horses.] No. 12, pp. 321–323. [In Russian.]

(926a) The monthly incidence of *Setaria* sp. larvae in the blood of horses in the north-western regions of the Tatar A.S.S.R. was found to be highest in May. G.I.P.

(926b) The clinical picture of *Setaria* infection in horses is variable and makes diagnosis difficult. The highest numbers of microfilariae in the blood occurred in May and hypochromic anaemia was observed during a period from April to June, but the blood changes were not always directly correlated with the number of microfilariae in the blood. G.I.P.

(926c) Three years after acclimatization in Tatar A.S.S.R. 32 musk-rats were examined and 18 were infected. Of the six helminths found only *Notocotylus quinqueserialis* was of the original helminth fauna, the remaining species, i.e. *Plagiorchis eutamiatatus zibetica*, *Strobilocercus fasciolaris*, *Paranoplocephala omphalodes*, *Echinostoma revolutum* and *Capillaria* sp. (one immature specimen), had been acquired locally. The two last species are registered for the musk-rat in Russia for the first time. G.I.P.

(926d) *Onchocerca cervicalis* and *O. reticulata* of the horse are independent species and details of the structure of the larvae and of the tails of the males are given. *O. cervicalis* is situated in the cervical ligament and affects the withers. The microfilariae are 0.168–0.240 mm. long, the pointed tail is 0.015–0.038 mm. long and its tip is bent sideways; they are found in the skin layers of the withers, neck and shoulders and sometimes in the wall of the lower abdomen and the limb joints. *O. reticulata* is found in the limb tendons and causes tendinitis. The microfilariae are 0.237–0.315 mm. long, the tail is 0.040–0.084 mm. long, is not bent and terminates in a thread-like portion. They are situated basically in the lymph and in the skin of the limb joints and, more rarely, in the wall of the lower abdomen. G.I.P.

(926e) The clinical picture is described of horses with microfilarial infections and with mixed infections of microfilariae and *Nuttallia*. G.I.P.

927—Trudi Problemnikh i Tematicheskikh Soveshchani. Akademiya Nauk SSSR.

- a. PAVLOVSKI, E. N., 1954.—[Problems in the study and control of plant-parasitic nematodes in connection with the national economic plan for the years 1951–1955.] No. 3, pp. 5–8. [In Russian.]
- b. KIRYANOVA, E. S., 1954.—[Results and prospects of developing phytonematology in U.S.S.R.] No. 3, pp. 9–47. [In Russian.]
- c. USTINOV, A. A., 1954.—[Morphological, oecological and physiological peculiarities of various populations of the root-knot nematode.] No. 3, pp. 48–69. [In Russian.]
- d. BLINOVSKI, K. V., 1954.—[Root-knot nematode—pest of trees and ornamental crops in Turkmenia.] No. 3, pp. 70–73. [In Russian.]
- e. ISAENKO, T. V., 1954.—[Control of the root-knot nematode in Turkmenia.] No. 3, pp. 74–78. [In Russian.]

(927b) Kiryanova after dealing extensively with Russian literature on plant-parasitic nematodes, lists and gives short notes on the 24 species occurring in Russia. *Heterodera fici* n.sp. found on roots of *Ficus* is described and figured; two figures illustrate the galls in *Agropyron repens* caused by *Paranguina agropyri* n.g., n.sp. [nomen nudum but described in *Trudi Zoologicheskogo Instituta Akademii Nauk SSSR*, 1955, 18, 42–52]. *H. marioni*, *H. göttingiana* and *H. fici* are considered in greater detail and the cuticular patterns of these three species are illustrated. G.I.P.

(927c) [This is a more detailed version of the paper published by Ustinov in 1953; for abstract see *Helm. Abs.*, 22, No. 996eh.]

(927d) Blinovski comments on the infection of trees and bushes with *Heterodera marioni* in Turkmenia, tabulates the hosts which have been recorded in the Botanical Gardens of Ashkhabad from 1947 to 1950 and lists 35 families of plants in which infection has been found. G.I.P.

(927e) The degree of infection with *Heterodera marioni* of various plants in Turkmenia and its control there by crop rotation are briefly considered. G.I.P.

927—Trudi Problemnikh i Tematicheskikh Soveshchani. Akademiya Nauk SSSR.

(cont.)

- f. ZEMLYANSKAYA, A. I., 1954.—[Results of field experiments on measures for control of root-knot nematode in Uzbekistan.] No. 3, pp. 79–96. [In Russian.]
- g. SHIPINOVA, S. I. & USTINOVA, N. M., 1954.—[Plant-parasitic nematodes of Azerbaijan.] No. 3, pp. 97–105. [In Russian.]
- h. KASIMOVA, G. A., 1954.—[Some results from a study of measures for controlling the root-knot nematode in Azerbaijan.] No. 3, pp. 106–117. [In Russian.]
- i. NIKITINA, T. F. & MISHKINA, L. P., 1954.—[The root-knot nematode and measures for its control.] No. 3, pp. 118–123. [In Russian.]
- j. EPSHTEIN, V. M., 1954.—[Study of temperature effect on activity of various populations of the root-knot nematode.] No. 3, pp. 124–127. [In Russian.]
- k. DMITRIEV, G. V., 1954.—[Hop-root nematode—*Heterodera humuli* Filipjev, 1934.] No. 3, pp. 128–132. [In Russian.]
- l. KORAB, I. I., 1954.—[Measures for controlling the sugar-beet nematode—*Heterodera schachtii* Schmidt.] No. 3, pp. 133–147. [In Russian.]

(927f) Of 37 types of crops from Central Asia examined, 63.7% were infected with *Heterodera marioni*. The plants and their varieties are classified into those which were resistant or in which the infection was heavy, average or slight. As cotton is one of the resistant plants and is a valuable crop of Uzbekistan its use in crop rotation is discussed, but further study of its resistance is advocated as contradictory results have been obtained with other crops when grown under varying conditions. Of the five control measures tested the best was crop rotation with cotton, particularly with the varieties C-460 and C-3210 when only 8.6% of the succeeding susceptible crop became infected. G.I.P.

(927g) From a two-year investigation of vegetables in Azerbaijan it is concluded that *Heterodera marioni* can develop in the roots under field conditions throughout the year, that the eelworms do not apparently pass from the soil into the plants in late autumn and winter when temperatures are below 12°C. (parsley and spinach sown on the 15th and 17th October remained uninfected), and that *Ditylenchus destructor* is widely distributed in the potato-growing areas of Azerbaijan. G.I.P.

(927h) When exposed to drying at 38°C. to 44°C., the stages of *Heterodera marioni* enclosed in galls 3–10 mm. in size are killed after one to four hours and the eggs and larvae after 30–60 minutes; the climatic conditions in Azerbaijan were therefore used to control *H. marioni* on vegetable crops. The soil in infected areas was dug over on a very hot, sunny day and exposed to drying and the digging was repeated not sooner than after five to six days. This method of control proved better than the various other measures tried. G.I.P.

(927i) *Heterodera marioni* infection was absent in tomato green-houses in the year following treatment of the soil with chloropicrin at 330 gm. per cu. m. Before treatment the tomato output of the nursery had fallen to one third. G.I.P.

(927j) The root-knot nematode populations of the boreal Kharkov and the southern Sukhum varied in their reaction to temperature changes. 20% of the females from Kharkov were still active at 8°C. while all those from the southern Sukhum had lost their motility. A rise in temperature from 25°C. to 35°C. upset the rhythmic activity in females of the Kharkov population, but the females of the southern population were similarly affected only above 35°C. G.I.P.

(927k) Dmitriev has found *Heterodera humuli* in the Ukraine. This is the first record of its occurrence in the U.S.S.R. He gives short notes on its early stages of development and the symptoms produced on hops. The highest infections occurred in soil sections with the oldest hop plants, while contrary to statements in the literature, nearby nettle roots were uninfected. G.I.P.

(927l) Korab discusses the action of various control measures on *Heterodera schachtii*, particularly crop rotation. Two successive sowings of chicory on heavily infected fields or the application of 800–1,200 kg. of calcium hypochlorite per hectare gave good results. G.I.P.

927—Trudi Problemnikh i Tematicheskikh Soveshchani. Akademiya Nauk SSSR.
(cont.)

- m. SKARBILOVICH, T. S., 1954.—[Measures for controlling the sugar-beet nematode.] No. 3, pp. 148–154. [In Russian.]
- n. SVESHNIKOVA, N. M., 1954.—[Chemical method of controlling *Heterodera* diseases of agricultural crops and its prospects.] No. 3, pp. 155–160. [In Russian.]
- o. TULAGANOV, A. T., 1954.—[Results and prospects of investigations into the nematodes of cultivated plants in Uzbekistan.] No. 3, pp. 161–170. [In Russian.]
- p. EGLITIS, V. & KAKTINYA, D., 1954.—[Plant-parasitic nematodes of Latvian SSR.] No. 3, pp. 171–181. [In Russian.]
- q. MERZHEEVSKAYA, O. I., 1954.—[Nematodes of agricultural crops of Byelorussian SSR.] No. 3, pp. 182–185. [In Russian.]
- r. POGOSYAN, E. E., 1954.—[Results of a study of the parasitic nematodes of the potato in Armenian SSR.] No. 3, pp. 186–195. [In Russian.]
- s. MASTAUSKIS, S., 1954.—[Stem nematode—*Ditylenchus dipsaci* (Kühn, 1858) on clover, seradella, buckwheat and rye.] No. 3, pp. 196–197. [In Russian.]
- t. LINNIK, G. N. & BASOVA, A. I., 1954.—[On developing measures for controlling the stem nematode of potato.] No. 3, pp. 198–207. [In Russian.]

(927m) Skarbilovich, discussing his work on the control of *Heterodera schachtii*, recommends that on heavily infected fields the sowing of beet should be suspended for eight to nine years and for four years on those less infected, that fields should be cleared of weeds and that the beet field should be treated in August or early September with calcium hypochlorite or “forbiat” at 50–100 gm. per sq. m. Fields of higher acidity can be limed at the usual rate and the lime should, preferably, be introduced into the furrows before cultivating various crops except beet. G.I.P.

(927n) Sveshnikova discusses generally the chemical method of control and the effect of different chemicals on *Heterodera marioni*, *H. rostochiensis* and *H. schachtii*. G.I.P.

(927o) From literature published since 1930 and from his own investigations, Tulaganov lists 111 plant-parasitic and soil nematodes for Uzbekistan. Their occurrence in the stem and leaves, in roots or in the soil is indicated. Plants from the Fergana valley were examined for *Heterodera marioni* and as a result 60 types of crops and weeds were shown to be infected; 40 of these host records were new for Uzbekistan and 25 were also new for the U.S.S.R. A list of the weed hosts is given. G.I.P.

(927p) The literature on *Heterodera rostochiensis*, *H. marioni*, *H. schachtii*, *Ditylenchus dipsaci*, *Aphelenchoides ritzema-bosi* and *A. fragariae* in Latvia is summarized, and some data are given on their biology. G.I.P.

(927q) A list is given of 62 nematode species which were found, between 1946 and 1950, in an examination of crops and the soil near the roots of plants in Byelorussian SSR [White Russia]. *Heterodera rostochiensis* was not present. Peat soils were richer than mineral soils in nematodes. G.I.P.

(927r) Thirty-five nematode species are listed as parasites of potatoes in Armenian SSR. *Ditylenchus destructor* causes great losses infecting 10–20% of potatoes in Armenia. G.I.P.

(927s) Mastauskis draws attention to the possible pathogenic importance of *Ditylenchus dipsaci* to clover, seradella, buckwheat and rye in Russia, quoting records of its occurrence on these hosts mainly in Poland. G.I.P.

(927t) Measures which are suitable for the control of *Ditylenchus destructor* when planting seed and other potatoes in the Ukraine are recommended. G.I.P.

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(cont.)

- u. KORAB, I. I. & TERESHCHENKO, E. F., 1954.—[System of measures for controlling the potato stem nematode—*Ditylenchus destructor* Thorne, 1945—in the grass-field crop rotations of the forest-steppe and wooded zones.] No. 3, pp. 208–218. [In Russian.]
- v. VLASOVA, M. Y. & KIRYANOVA, E. S., 1954.—[Method of controlling the chrysanthemum nematode at the flower-growing farms of Leningrad.] No. 3, pp. 247–251. [In Russian.]
- w. RISS, R. G., 1954.—[Measures for controlling the infestation of potato tubers with stem nematodes.] No. 3, pp. 219–222. [In Russian.]
- x. GERASIMOV, B. A., 1954.—[Measures for controlling the stem nematode injurious to onion and garlic.] No. 3, pp. 223–231. [In Russian.]
- y. MASLENNIKOV, I. P., 1954.—[Stem nematode on garlic and measures for its control.] No. 3, pp. 232–237. [In Russian.]
- z. LORENTS, L. Y., 1954.—[Stem nematode—*Ditylenchus dipsaci* (Kühn) = *Ditylenchus allii* (Beijerinck) as a pest of vegetable crops in the district of the City of Moscow.] No. 3, pp. 238–241. [In Russian.]
- ba. DANILOV, V. P., 1954.—[Stem nematode on strawberries and measures for its control.] No. 3, pp. 242–246. [In Russian.]

(927u) The measures recommended for the control of *Ditylenchus destructor* are: planting of potatoes only every third or fourth year in rotation with suitable grass crops, the control of weeds, the removal of potato haulms and other remains of the potato harvest from fields, and the use of uninfected seed potatoes. G.I.P.

(927v) The authors discuss control and preventive measures against *Aphelenchoides ritzema-bosi* in chrysanthemums giving practical details. Particular reference is made to the hot-water treatment of parent plants so as to obtain uninfected planting material, and to measures ensuring the raising of healthy plants. G.I.P.

(927w) Riss discusses *Ditylenchus destructor* infestation of potatoes with some short notes on its control. G.I.P.

(927x) *Ditylenchus allii* from onions was able to infect garlic and *D. allii* from garlic infected onions, parsley, parsnips and, to some degree, tomatoes and peas. Onions in humus soils (pH 7) were considerably less infected than those in sandy (pH 7) or loam (pH 5) soils. Cultivation of clover for one year in infected fields did not completely clear the infection. Liming reduced infection of onions in loam soils but not in sandy soils. Infected onion seeds were treated by fumigation with nitrogen dioxide, by soaking in sulphuric acid solution (1:150), and by heating in water at 50°C. The last two treatments were the most acceptable but their effect on the growth of the onions remains to be investigated. G.I.P.

(927y) The majority of *Ditylenchus allii* were found in the outer skins of garlic and in the broken skins and necks of onions. The nematodes were able to survive for over two years in the dry remains from these plants. Heating in water at 43°C. to 45°C. (a temperature not harmful to the garlic) for one hour killed only 70% of the worms while dry heating of garlic and onions at 45°C. to 50°C. for 30 minutes to two hours and of onions at 50°C. to 52°C. for two hours was also not fully effective. Nearly all nematodes were killed when onions were kept for two hours in turf saturated with 5% benzol or in benzol vapour. Several other methods proved ineffective. G.I.P.

(927ba) Notes are given on the biology and survival of *Ditylenchus dipsaci* on strawberry in the Krasnodar region. The infection is widely spread throughout Russia. For its control, heating of infected plants at 42°C. for four hours was 100% effective but lowered their viability, while soaking in clean water for five hours was harmless and cleared the plants of nematodes. Introduction of D.D.T. or formalin (1:50) into the soil killed larvae in the soil but not within the plant. Daily watering with formalin prevented infection of plants and stimulated growth of the already infected plants. G.I.P.

927—Trudi Problemnikh i Tematicheskikh Soveshchani. Akademiya Nauk SSSR.
(cont.)

- bb. KORAB, I. I. & SKARBILOVICH, T. S., 1954.—[Recommendations on the control of the sugar-beet nematode—*Heterodera schachtii* Schmidt, 1871.] No. 3, pp. 252–253. [In Russian.]
- bc. KIRYANOVA, E. S., LINNIK, G. N., BASOVA, A. I., TERESHCHENKO, E. F., RISS, R. G. & POGOSYAN, E. E., 1954.—[Recommendations on the control of the potato stem nematode—*Ditylenchus destructor* Thorne, 1945.] No. 3, pp. 253–255. [In Russian.]
- bd. KIRYANOVA, E. S., GERASIMOV, B. A., MERZHEEVSKAYA, O. I. & POGOSYAN, E. E., 1954.—[Recommendations on controlling the stem nematode of onion—*Ditylenchus allii* (Beijerinck, 1883).] No. 3, pp. 255–257. [In Russian.]
- be. LOMAKINA, Z. V., KIRYANOVA, E. S. & VLASOVA, M. Y., 1954.—[Recommendations for controlling the chrysanthemum nematode—*Aphelenchoides ritzema-bosi* (Schwartz, 1911).] No. 3, pp. 257–259. [In Russian.]
- bf. DOGEL, V. A., 1954.—[Progress in investigations of fish diseases in the U.S.S.R. and other countries.] No. 4, pp. 11–17. [In Russian.]
- bg. DRYAGIN, P. A., 1954.—[Acclimatization of fish in the U.S.S.R. and the parasitological factor.] No. 4, pp. 18–23. [In Russian.]
- bh. SHCHUPAKOV, I. G., 1954.—[New data on the parasite fauna of gwyniad fish acclimatized in the Ural.] No. 4, pp. 24–28. [In Russian.]
- bi. PETRUSHEVSKI, G. K., 1954.—[Changes in the parasite fauna of fish in relation to their acclimatization.] No. 4, pp. 29–38. [In Russian.]
- bj. CHECHINA, A. S., 1954.—[Diseases of pond fish in the post-war years in Byelorussian SSR.] No. 4, pp. 39–42. [In Russian.]

(927bf) In this survey of achievements in ichthyoparasitology in the U.S.S.R. and other countries, Dogel shows that the method in the U.S.S.R. is to have a planned investigation of all fish in each region of the Soviet Union, whereas in other countries researches into fish parasites are sporadic. For this reason he considers Russian ichthyoparasitology to be in the lead. He mentions the major achievements of various workers during the last 20 years which have resulted in more than 170 papers on the subject. C.R.

(927bg) Dryagin considers the influence of helminths on the growth of fish to be of great importance. In acclimatization of fish the parasites may be an important factor. He also outlines the acclimatization of fish in various parts of the U.S.S.R. and stresses the success with which it has so far met. C.R.

(927bh) Shchupakov indicates the influences of acclimatization on coregonid fish transferred from Chudskoye and Ladoga lakes to various lakes in the Ural. Tables show that *Coregonus lavaretus maraenoides* lost all parasites from the place of its origin and acquired only *Tetracotyle variegata*, *Tylodelphys clavata* and *Agamonema* sp., while *C. albula ladogensis* acquired *Tetracotyle variegata*, *Camallanus lacustris*, *Agamonema* sp. and *Diphyllbothrium* sp. *Coregonus* was transferred from its place of origin as roe and at this stage was free from parasites of the adult stage. C.R.

(927bi) From a detailed analysis of the composition of the helminth fauna of various species of fish which were introduced into other regions for acclimatization, Petrushevski concludes that in acclimatized fish the parasites brought from their place of origin are either completely lost or their number is reduced. Together with the loss of their original helminths they acquire some new parasites. Parasites with a direct life-cycle in fish acclimatized as adults are retained. If during acclimatization parasite-free fish could be obtained this would increase the growth and improve the condition of the fish and would help to promote higher productivity in fish farming. C.R.

(927bj) Chechina reports the occurrence of *Dactylogyrus anchoratus*, *Caryophyllaeus fimbriiceps*, *Acanthocephalus anguillae*, *Piscicola geometra*, *D. vastator*, *D. solidus*, *Gyrodactylus* sp., *Tetracotyle* sp., *Tylodelphys clavata* and *Sanguinicola* sp., among the parasites of carp in various fish farms in Polesie. *Dactylogyrus solidus* and *D. vastator* are of great importance. She remarks that yearling carp in good condition suffer less from ectoparasites. C.R.

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(cont.)

- bk. DOGEL, V. A., 1954.—[Problems and prospects of parasitological investigations of fish in southern rivers in connection with changes in the fish industry.] No. 4, pp. 43–46. [In Russian.]
- bl. BAUER, O. N., 1954.—[Formation of the parasite fauna in new water reservoirs.] No. 4, pp. 47–53. [In Russian.]
- bm. STOLYAROV, V. P., 1954.—[The parasite fauna of fish of economic importance in the Rybinsk reservoir during the first seven years of its existence.] No. 4, pp. 54–56. [In Russian.]
- bn. SHIGIN, A. A., 1954.—[Results of helminthological investigations of fish-eating birds from the Rybinsk reservoir during three years (1949–1951).] No. 4, pp. 57–60. [In Russian.]

(927bk) In order that changes in fish farming should not only maintain the level of production but also increase it, Dogel discusses the danger of parasitic infestation under various types of fish farm management. He also stresses the importance of helminths in acclimatization of fish in other regions. C.R.

(927bl) According to Bauer the general scheme of formation of the parasitic fauna of fish in reservoirs is as follows: in the first year of a reservoir's existence infestation of fish with species connected with plankton (tapeworms, nematodes and crustaceans) increases rapidly. Flukes seem able to survive in fairly large numbers, particularly the larval stages of flukes which are carried by fish. In later years the picture changes. Infestation with species connected with plankton increases from year to year and may become dangerous. Occupation of the banks of reservoirs by fish-eating birds and by man favours the increase of *Ligula* or of *Diphyllbothrium* larvae respectively. In the second and third year all digenetic flukes which develop in various groups of Mollusca are lost, but later these forms reappear. Where Gastropoda occupy a reservoir early, such forms as *Bunodera*, *Azygia*, *Allocreadium* and larvae of *Diplostomulum*, *Tetracotyle* and *Neascus* appear fairly soon in the fish. The rate of increase depends on the degree of appearance of birds in the district. If molluscs of the families Unionidae and Sphaeriidae appear early in a reservoir then *Bucephalus*, *Phyllodistomum* and *Crepidostomum* appear in the parasitic fauna. Protozoan parasites and monogenetic flukes seem to increase in both extent and intensity. Bauer attributes this to slower currents. Acclimatization of fish alien to the reservoir may have some influence on the parasitic fauna and should always be taken into consideration. C.R.

(927bm) Stolyarov investigated the parasitic fauna of 17 species of fish in the Rybinsk reservoir and found 72 species of parasites. Among these were 20 species of Monogenea, 12 species of Digenea, nine species of Cestoda, six species of Nematoda, four species of Acanthocephala and one species of Hirudinea. C.R.

(927bn) From an examination of 126 herons (92 nestlings and 34 adults), Shigin found them to be infected with 32 species of helminths (13 Trematoda in 77.6% of herons, 12 Nematoda in 81% of herons, six Cestoda in 93.2% of herons and one acanthocephalan in 0.9% of herons). Nestlings became infested very early in life but parasites were not found in those less than four days old. They became infested with tapeworms *Gryporhynchus cheilancristrotus* on the fifth day and by the 25th day of their life the infestation was 100%. Infestations with *Pharyngosetaria marcinowskyi* and *Apharyngostriega cornu* began on the tenth day. Considerably later (when not less than 20 days old) they acquired *Posthodiplostomum cuticola* and when nestlings began their own life they became infested with *Echinochasmus beleocephalus*, due to changes in diet of the young herons. There is a possibility that adults when feeding may transfer fully grown helminths, (*Contracaecum microcephalum* was found in a five-day-old heron). Shigin also made observations on the seasonal dynamics of infestation of herons. In his view *P. cuticola*, *A. cornu*, *E. beleocephalus*, *E. intermedius*, *G. cheilancristrotus*, *G. pusillus*, *Pharyngosetaria marcinowskyi*, *Thominx carbonis*, *Contracaecum microcephalum* and *Porrocaecum reticulatum* are common helminths of herons everywhere while *Chinesocerca tonkinensis*, *Clinostomum complanatum* and *Euclinostomum heterostomum* are southern forms, disappearing in summer and autumn in the Rybinsk river. The author considers the heron to be a great destroyer of fish but stresses its sanitary importance in reducing the number of *Ligula*. C.R.

927—Trudi Problemnikh i Tematicheskikh Soveshchani. Akademiya Nauk SSSR.
(cont.)

- bo. SMIRNOVA, K. V., 1954.—[Parasitic diseases of fish in the River Don in the region of the Tsimlyansk reservoir (before its formation). (Preliminary report).] No. 4, pp. 61–65. [In Russian.]
- bp. KOSHEVA, A. F., 1954.—[The parasite fauna of fish of economic importance from the River Volga in the region of Kuybyshev in connection with the construction of the Kuybyshev power-station.] No. 4, pp. 66–69. [In Russian.]
- bq. AKHMEROV, A. K. & BOGDANOVA, E. A., 1954.—[The parasite fauna of young carp, bream and roach in reservoir fish farms of the Volga delta.] No. 4, pp. 75–78. [In Russian.]
- br. TITOVA, S. D., 1954.—[Parasites of fish in Lake Teletsk.] No. 4, pp. 79–84. [In Russian.]
- bs. GUSEV, A. V., 1954.—[Monogenetic trematodes of fish from the basin of Lake Khanka.] No. 4, pp. 85–88. [In Russian.]
- bt. AKHMEROV, A. K., 1954.—[Parasite fauna of fish in the River Kamchatka.] No. 4, pp. 89–98. [In Russian.]
- bu. BAUER, O. N. & NIKOLSKAYA, N. P., 1954.—[*Dactylogyrus solidus* Achm., its biology, development and significance in fish economy.] No. 4, pp. 99–109. [In Russian.]

(927bo) Smirnova examined 431 specimens of fish belonging to 29 species and 188 young fish belonging to ten species. She found them infested with monogenetic flukes (18 species), digenetic flukes (11 species), nematodes (ten species), tapeworms (six species), acanthocephalans (one species) and leeches (one species). C.R.

(927bp) Kosheva examined 19 species of fish from the river Volga and found them infested with 101 species of parasites including monogenetic flukes (22 species), digenetic flukes (22 species), tapeworms (eight species), acanthocephalans (five species), nematodes (13 species), leeches (one species). Seven species were new to the River Volga. She also examined ten species of fish from the Kutulukski reservoir and found them infested with 32 species of parasites including monogenetic flukes (six species), digenetic flukes (nine species), tapeworms (seven species) and leeches (one species). Kosheva discusses the feeding and habits in relation to their parasitic fauna. C.R.

(927bq) In one fish farm, Akhmerov & Bogdanova examined 289 specimens of young carp, 311 bream and 89 roach. They were infested with 19 species of parasites including protozoa and monogenetic flukes (13), digenetic flukes (one), and tapeworms (two). On the other farm 182 specimens of carp, 190 bream and 71 roach were examined and were found to be infested with 16 species of parasites including one monogenetic fluke and one tapeworm. C.R.

(927br) This paper deals with parasites of fish in Lake Teletsk. A list is given of protozoa and helminths found in many species of fish, (of which only the common names are given), and the habitats where they were found. C.R.

(927bs) Gusev examined 550 specimens of fish belonging to 48 species and found 42 species infested with 109 species of Monogenea belonging to nine genera. There were no new species. C.R.

(927bt) Akhmerov examined fish for parasites in the River Kamchatka. There are two lists of hosts and their parasites together with percentages of infestation. The fish belonged to 15 species and two subspecies and were infested with four species of parasites. No new species are recorded. C.R.

(927bu) The optimum temperature for the development of *Dactylogyrus solidus* was found to be 13–15°C. and for *D. vastator* 24–25°C. The infestation increases with the age of fish. In the authors' opinion, these helminths are definitely pathogenic and often fatal to young fish. The tolerance of *D. solidus* to a concentration of salt higher than normal in water makes the use of a salt bath as curative treatment useless. C.R.

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(cont.)

- bv. SUDARIKOV, V. E., 1954.—[Biological characteristics of trematodes of the order Strigeata.] No. 4, pp. 110–113. [In Russian.]
- bw. SVADZHYAN, P. K., 1954.—[A study of the biology of *Dicrocoelium lanceatum* Stiles & Hassall and its intermediate hosts in the Armenian SSR.] No. 4, pp. 114–117. [In Russian.]
- bx. KULACHKOVA, V. G., 1954.—[The life-cycle and pathogenic significance of the trematode *Paramonostomum alveatum* (Mehlis, 1846).] No. 4, pp. 118–122. [In Russian.]
- by. USPENSKAYA, A. V., 1954.—[The parasite fauna of deep-water Crustacea in East Murmansk.] No. 4, pp. 123–127. [In Russian.]
- bz. CHUBRIK, G. K., 1954.—[Parasitological examination of molluscs of the coastal zone of East Murmansk and the White Sea.] No. 4, pp. 128–134. [In Russian.]
- ca. OSHMARIN, P. G., OPARIN, P. G., SADOVSKAYA, N. P., BELOUS, E. V. & DOTSENKO, T. K., 1954.—[Work of the Far East Branch of the Academy of Sciences of U.S.S.R. on the study of the helminth fauna of domestic and wild animals and on the organization of anthelmintic measures in collective farms in Primorye Territory.] No. 4, pp. 135–141. [In Russian.]

(927bv) Sudarikov discusses the biological peculiarities of the Strigeida and summarizes their biological cycles into five types. In the first type, characterized by the tetracotylid structure of the metacercaria, the second intermediate hosts are invertebrates (molluscs and leeches). In the second type, the second intermediate hosts are vertebrates (fishes, amphibians and reptiles). The third type possesses cercariae of diplostomulum type and the intermediate hosts are molluscan. The fourth type has diplostomulum metacercariae, but the intermediate hosts are vertebrates. The fifth type is peculiar to the genus *Alaria* of which the biology is summarized as follows: the miracidium hatches in water and penetrates the mollusc in which it develops to the cercaria. Cercariae leave the snail and enter either tadpoles or frogs and become mesocercariae. In carnivores these mesocercariae migrate towards the lungs and during their migration they become metacercariae; these pass through the trachea into the buccal cavity and later into the intestine where they develop to the adult stage. A third intermediate host is not necessary. C.R.

(927bw) Svadzhyan found both experimentally and under natural conditions that *Fruticocampylaea narzanensis*, *Taminia tridens*, *Helicella crenimargo*, *H. derbentina*, *Zonitoides nitidus* and *Zebrina detrita* serve as intermediate hosts for *Dicrocoelium dendriticum* in Armenia. He outlines the biology and oecology of the snails and recommends chemical control and hand collection of the snails on pastures. C.R.

(927bx) Kulachkova found that heavy mortality in eider ducks was due to *Paramonostomum alveatum*, with numbers up to 50,000 specimens in one nestling. She examined 5,418 specimens of invertebrates which form the food of the eider duck and discovered rediae and cercariae only in *Hydrobia ulvae* but cysts were found also on other molluscs (listed in a table). C.R.

(927by) In East Murmansk, Uspenskaya examined 27,000 Crustacea belonging to 30 different genera and found 25 parasites, among which were nematodes, cestodes, trematodes and acanthocephalans. She remarks on the seasonal distribution of metacercariae of *Podocotyle atomon* in *Gammarus*. She also found that for *Ascarophis morrhuae* the following serve as intermediate hosts, *Hetairus polaris*, *Spirontocaris spinus*, *Pandalus borealis* and *Pagurus pubescens*. The intermediate hosts for *A. filiformis* are *H. polaris* and more rarely *Enalus gaimardi*. She also found metacercariae of *Nordostrema messjatzevi* in the muscles of *Sclerocrangon boreas* and more rarely in *Pagurus pubescens* and *Sabinea sarsi*. C.R.

(927bz) Chubrik has found that infestation of *Littorina saxatilis* with helminth larvae reaches a maximum in summer and a minimum in winter. As the molluscs grow older they are more heavily infested with larvae of helminths. C.R.

(927ca) This is a report of work done by the Far East Branch of the Academy of Sciences of the U.S.S.R. in the sphere of human and animal parasitology and outlines its plans for the future. C.R.

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(cont.)

- cb. SPASSKI, A. A. & SPASSKAYA, L. P., 1954.—[The classification of hymenolepidids.] No. 4, pp. 142–147. [In Russian.]
- cc. KIRYANOVA, E. S., 1954.—[Nematomorpha, their biology and economic significance.] No. 4, pp. 148–152. [In Russian.]
- cd. SHULMAN, S. S., 1954.—[The significance of data on parasites of fish in the study of related sciences.] No. 4, pp. 153–162. [In Russian.]
- ce. DUBININ, V. B., 1954.—[Species in parasitic animals in connection with the structure of the natural order.] No. 4, pp. 163–185. [In Russian.]
- cf. ORLOV, N. P., 1954.—[The question of specificity in parasitology and its significance in the solution of practical problems.] No. 4, pp. 186–187. [In Russian.]
- cg. ZASUKHIN, D. N., 1954.—[Some questions on the history of Russian parasitology.] No. 4, pp. 188–193. [In Russian.]

(927cb) This is a critical review of López-Neyra's system of classification of hymenolepidids which the authors consider to be artificial; this remark also refers to other monographs on the subject. The authors have undertaken to produce a classification of the Hymenolepididae based on phylogenetic investigations and a study of the history of their development. Their system of classification includes 30 genera of cestodes with three testes, found in birds, of which 19 genera are new [but descriptions are not given in this paper]. Diagnoses of the other eleven genera are given. [See also Nos. 922d & 922e above.] C.R.

(927cc) Kiryanova outlines the systematic position of fresh-water and marine Nematomorpha. In marine Nectomatocoea there is only one family Nectonemidae with the genus *Nectonema*. In the Gordiacea there are four orders: Chordodida, Parachordodida, Paragordiida and Gordiida. Very little is known about the economic importance of Nematomorpha. C.R.

(927cd) Shulman, by giving many examples of how knowledge of parasites may help to determine the oecological conditions under which their hosts live, shows also its importance in zoogeography. These examples deal mainly with fish and their helminths. He thinks that at present parasitology of fish should not be approached as a discipline in itself but as one of the methods of study of water reservoirs in general and the biology of all the animal life in them in particular. C.R.

(927ce) In this essay on speciation in parasitic animals, Dubinin outlines the various ways which may eventually lead to the origin of new species. He stresses the great importance of subspecies which often are wrongly taken as new species. In his view the formation of a species may appear as a result of sudden change in habitat or may appear under the influence of other biotic factors. He thinks that at least three subdivisions may be made within species: subspecies, forma and biological species. C.R.

(927cf) Orlov defines the problems of specificity in parasitology and its importance for the solution of practical problems. He defines specificity as the adaptation of the parasite to a determined (defined) circle of hosts, to a specific place of localization (habitat) and to the age of the specific host, and often to a determined season in the host. C.R.

(927cg) Zasukhin makes a plea for the publication of a history of Russian parasitology which, in many cases, would help to establish priorities due to Russian workers in parasitology either unknown or unrecognized outside Russia. He quotes many such examples. C.R.

928—Trudi Vsesoyuznogo Nauchno-Issledovatel'skogo Instituta Spirtovoi Promishlennosti.

- *a. TERESHCHENKO, E. F., 1954.—[Stem nematode of potatoes and measures for controlling it.] 4, 122–130. [In Russian.]

929—Trudi Zoologicheskogo Instituta. Azerbaidzhanski Filial Akademii Nauk SSSR.

- a. ASADOV, S. M., 1954.—[Trichostrongylids in goats in Azerbaijan.] **17**, 5–38. [In Russian.]

(929a) Asadov has found 13 trichostrongylid species in one Angora goat in Azerbaijan and describes the males of those species which varied in structure from the type. He discusses the literature and his own work on the trichostrongylids of goats and concludes that 22 species occur in the domestic goat. G.I.P.

930—Türk İjiyen ve Tecrübi Biyoloji Dergisi.

- a. OYTUN, H. S., 1954.—“Türkiyede ancyllostomiasis (Kancalı kurt) problemine dair araştırmalar.” **14** (1), 19–36. [Also in German pp. 37–53.]

(930a) Oytun assesses the importance of hookworm infections on the borders of the Black Sea east of Istanbul, basing his study on personal observations and local and national statistics. Control measures should at least be implemented in Trabzon, Giresun and at Arhavi. Most of the infected persons in Istanbul, where the incidence has decreased in the last few years, come from Trabzon, Tirebolu, Sürmene, Rize and Hopa. He finds that at Trabzon the incidence of intestinal parasitism is 100%. Zonguldak, Samsun and Ordu are lightly infected localities but local conditions are favourable to the spread of hookworm. Particular watch should be kept on the Bosphorus Straits where people are settling from regions around the east of the Black Sea. *Ancylostoma duodenale* and *Necator americanus* infections are equally wide-spread in Turkey. M.MCK.

931—Union Médicale du Canada.

- a. LANTHIER, A. & BELISLE, M., 1954.—“Trichinose aiguë: deux cas.” **83** (11), 1242–1247.

932—Věstník Československé Zoologické Společnosti.

- a. CHALUPSKÝ, J., 1954.—“*Plagiorchis blatnensis* n.sp. (Plagiorchidae, Trematoda) from the small intestine of *Microtus arvalis* Pall.” **18** (3), 181–188. [Russian & Czech summaries pp. 185, 188.]
- b. DYK, C. & LUCKÝ, Z., 1954.—“Endoparasitosy kaprovitých ryb, zvláště ostroretky, v společném životním prostředí.” **18** (3), 198–200. [German & Russian summaries p. 200.]
- c. WEISER, J., 1954.—“Příspěvek k znalosti cizopasníků kůrovce *Ips typographus* L.” **18** (3), 217–224. [German & Russian summaries pp. 223–224.]
- d. RYŠAVÝ, B., 1954.—“Příspěvek k poznání motolic našich vrápenců.” **18** (4), 298–300. [English & Russian summaries pp. 299–300.]

(932a) *Plagiorchis blatnensis* n.sp., figured and described from *Microtus arvalis* in southern Bohemia, belongs to the subgenus *Plagiorchis*. It measures 2.0–2.6 mm. by 0.6–0.8 mm., the oral sucker is larger than the ventral one and only the posterior body is covered with fine spines. The well developed vitellaria extend posteriorly from the bifurcation of the gut, a prepharynx is absent and the cirrus is long and projects from the body. A combination of these characters distinguishes *P. blatnensis* from the two nearest species, *P. arvicolae* and *P. muris*, which belong in the subgenus *Multiglandularis*. G.I.P.

(932b) The presence or absence of an endoparasitic fauna in cyprinoid fish and particularly in *Chondrostoma nasus* from the river Morava in Czechoslovakia, is discussed in relation to the habits of the fish, especially its type of food. G.I.P.

(932c) Among the parasites found in bark beetles (*Ips typographus*) from the neighbourhood of Marienbad were the nematodes *Aphelenchulus contortus typographi* (in 27% of the beetles), *A. dispar typographi* (in 3.9%) and *Diplogaster bütschlii* (in 17%). G.I.P.

(932d) *Prosthodendrium erhardovae* n.sp. from *Rhinolophus ferrum-equinum* in southern Moravia measures 1.15–1.9 mm. by 0.84–0.90 mm. and its ovary is situated posteriorly to the ventral sucker, while in the smaller *P. chilostomum* the ovary is anterior to the ventral sucker. G.I.P.

933—Vestnik Khirurgii Imeni Grekova.

- *a. SEMENOV, V. S., 1954.—[Resection of the liver in alveolar echinococcosis.] **74** (1), 20–25. [In Russian.]
- *b. DREVINA, A. I., 1954.—[Rupture of echinococcus of the liver in blunt injury of the abdomen.] **74** (1), 64. [In Russian.]
- c. AKHALADZE, G. L., 1954.—[Echinococcosis of the gluteal region.] **74** (7), 79. [In Russian.]

934—Veterinär-Medizinische Nachrichten. Marburg.

- *a. WETZEL, R., 1954.—“Zum Entwicklungskreis des kleinem Leberegels (*Dicrocoelium dendriticum*).” Year 1954, No. 3, pp. 134–135. [English, French & Spanish summaries, Suppl. pp. 3–4, 12–13, 21–22.]

935—Veterinaria Técnica Española. Series A. Inspección de Alimentos y Zoonosis.

- *a. TARAZONA VILAS, J. M., 1954.—“Las zoonosis parasitarias transmisibles al hombre en el Somontano de Barbastro (Huesca).” **1** (7), 219–231. [English & French summaries.]

936—Veterinaria y Zootecnia. Lima.

- *a. ROJAS, J. H., 1954.—“Encuesta de parásitos gastro-intestinales de caninos de la Provincia de Yauyos.” **6** (12), 48.
- *b. RONQUILLO CORNELIO, A. S., 1954.—“Encuesta sobre *Echinococcus granulosus* en la ciudad de Huánuco.” **6** (12), 48–49.
- *c. PIMENTEL MOSTACERO, E., 1954.—“Grado de incidencia del *Oxyuris equi* en el distrito de Lima y alrededores.” **6** (12), 49–50.
- *d. RUEDA MEZA, A., 1954.—“Primer caso de *Strongyloides* sp. en perros del Perú.” **6** (12), 50.

937—Veterinário.

- *a. CORREA, F. M. DE A., 1954.—[Habronemiasis of Equidae.] **4**, 53–60. [In Portuguese.]

938—Veterinársky Časopis. Bratislava.

- *a. ANTIPIN, D. N., 1954.—“Cesty rozvoja helmintologickej vedy a praxe v SSSR.” [Helminthology in the U.S.S.R.] **3**, 176–191. [In Czech.]
- *b. VODRÁŽKA, J., 1954.—[Effect of *Tanacetum vulgare* oil on *Ascaris suum* in vitro.] **3**, 208–222. [In Czech: German & Russian summaries.]
- *c. SELECKÁ, V., 1954.—[Treatment of Dictyocaulus infestation in sheep with an antimony compound.] **3**, 231–241. [In Czech: German & Russian summaries.]

939—Veterinářství. Brno.

- *a. KLIMEŠ, B., ŠIMÚNEK, J. & ŠVEC, R., 1954.—[Officially benzinum—the anthelmintic in poultry.] **4**, 53–58. [In Czech: English summary.]
- *b. KONRÁD, J., 1954.—[Parasitic invasions in the farm with fur-animals.] **4**, 105–108. [In Czech.]
- *c. KLIMEŠ, B. & BROŽ, M., 1954.—[Benzene—the treatment for helminths.] **4**, 268–269. [In Czech.]
- *d. WALTEROVA, A., 1954.—[Benzine against the helminths in hens.] **4**, 283. [In Czech.]

940—Veteriner Fakültesi Dergisi. Ankara Üniversitesi.

- *a. AYSOY, S., 1954.—“Les oeufs d'*Ascaris megalocephala* (*Parascaris equorum*) (parasite de l'intestin du cheval et de l'âne.” **1** (1), 1–5.
- *b. GÜRALP, N., 1954.—“Koyunlarımızda görülen *Chabertia ovina* 'nin morfoloji, biyoloji ve tedavisi.” **1** (3/4), 34–39. [English summary.]

941—Vie et Milieu. Paris.

- a. CHABAUD, A.G., 1954.—“Valeur des caractères biologiques pour la systématique des nématodes spirurides.” **5** (3), 299–309.
- b. DEBOUTTEVILLE, C. D., GERLACH, S. & SIEWING, R., 1954.—“Recherches sur la faune des eaux souterraines littorales du Golfe de Gascogne. Littoral des Landes.” **5** (3), 373–407.
- c. DEBOUTTEVILLE, C. D., 1954.—“Eaux souterraines littorales de la côte catalane française (mise au point faunistique).” **5** (3), 408–451.
- d. DOLLFUS, R. P., 1954.—“Métacercarie progénétique de *Derogenes* (Trematoda Hemiuroidea) chez un copépode parasite de poisson.” **5** (4), 565–568.

(941a) [This paper summarizes the author's extensive study of the biology and life-cycles of the spirurids and his conclusions on the value of these aspects in the classification of this group. For abstracts of these papers, which appeared in *Ann. Parasit. hum. comp.*, **29**, 42–88, 206–249 and 358–425, see *Helm. Abs.*, **23**, Nos. 7b, 213a & 356b.]

(941d) Dollfus describes and illustrates a progenetic metacercaria, identified as *Derogenes varicus*, which was found in the intestine of *Lernaeocera luscii*, a copepod parasitizing *Gadus luscus* at Roscoff. This is the first record of a distome in a parasitic copepod. Progenesis appears to be rare in the Hemiuroidea and the few other published instances are cited. S.W.

942—Virginia Veterinarian.

- *a. DURBIN, C. G., 1954.—“Emetine hydrochloride for lungworms in sheep.” **1** (2), 14–15.

943—Wasserwirtschaft-Wassertechnik. Berlin.

- a. MÜLLER, B., 1954.—“Untersuchungsmethoden zum Nachweis von Wurmeiern im Abwasser, an Feldfrüchten und im Erdboden.” **4** (10), 373–375.

(943a) Müller has combined the Telemann and Fülleborn techniques for the examination of sewage, vegetables and soil for helminth eggs. R.T.L.

944—West Indian Medical Journal.

- a. JELLIFFE, D. B. & SHARPE, I. M., 1954.—“The incidence and treatment of oxyuriasis among children of British military families in Jamaica.” **3** (3), 207–210.

(944a) When examined for *Enterobius* infection, by the Scotch tape technique, 106 children of British troops stationed in Kingston, Jamaica, gave an incidence of 62.3%. The results of re-examination of a small number of cases after treatment by gentian violet, diphenan, terramycin and benadryl led to the conclusion that none of these drugs was very effective. R.T.L.

945—Wiener Zeitschrift für Innere Medizin.

- a. ARAFA, M. A., 1954.—“Ankylostomiasis.” **35** (7/8), 305–311.
- b. ARAFA, M. A., 1954.—“Darm-Bilharzia.” **35** (9), 381–387.
- c. ARAFA, M. A., 1954.—“Leber-Bilharzia.” **35** (9), 387–390.
- d. KÖNIGSTEIN, R. P., 1954.—“Zwei Fälle von Clonorchiasis sinensis.” **35** (10), 420–422.

946—Wiener Zeitschrift für Nervenheilkunde und deren Grenzgebiete.

- a. GERSTENBRAND, F., 1954.—“Demonstration eines Falles von Cysticercose.” **9** (4), 496–505.

947—Wissenschaftliche Zeitschrift der Universität Rostock.

- a. BUDZIER, H. H., 1954.—“Untersuchungen über die Primär- und Sekundärfluoreszenz der Larven des Kartoffelnematoden *Heterodera rostochiensis* Wollenweber unter Verwendung von Akridinorange.” Mathematisch-Naturwissenschaftliche Reihe, 3 (4), 221–229.
- b. SCHMIDT, J., 1954.—“Der gegenwärtige Stand der Kartoffelnematodenforschung.” Mathematisch-Naturwissenschaftliche Reihe, 3 (5), 371–377.

(947a) Budzier ascertained that the colour of fluorescence produced by staining larvae of *Heterodera rostochiensis* with acridine orange did not reliably indicate whether they were dead or alive. Dead larvae fluoresced with a consistent red colour according to the Strugger effect only if killed by hot water or natural or mechanical phenomena. Those killed with hydrochloric acid, potassium hydroxide, formalin, alcohol, dichloropropene, dichlorobutane or a preparation of carbamic acid fluoresced red, orange and even green which is usually attributed to live material. After more than 100 hours in acridine orange solution or a buffer solution of pH 6.4 to 6.9 *H. rostochiensis* larvae were capable of movement. M.MCK.

(947b) Schmidt reviews the importance of *Heterodera rostochiensis*, the means by which it spreads and the measures used and difficulties encountered in controlling it. He foresees that in the future control by predators will play a larger part. M.MCK.

948—Zdravstveni Vestnik.

- a. VALENTINČIČ, M., 1954.—“Nekaj o črevesnih parazitih v Sloveniji.” 23 (11/12), 312–316. [English summary p. 316.]

(948a) Of 769 children examined for helminths in 1953 in Slovenia, 89.2% were infected with *Enterobius vermicularis*, 59.8% with *Ascaris lumbricoides* and 45.1% with *Trichuris trichiura*. These results are compared with those from three other areas of Yugoslavia and the differences obtained, using the methods of Telemann, Lörincz and direct swab, are discussed. G.I.P.

949—Zeitschrift für Tropenmedizin und Parasitologie.

- a. MOHR, W., FISCHER, I. & BORN, W., 1954.—“Umgebungsuntersuchungen bei *Fasciola hepatica*—Fällen in Norddeutschland (Grafschaft Hoya).” 5 (4), 469–477. [English summary p. 476.]

(949a) As two cases of human infection with *Fasciola hepatica* were found in the county of Hoya in Lower Saxony, the blood, faeces and urine of 214 inhabitants, mostly children, in neighbouring villages were examined. An eosinophilia of 8% to 26% was present in 25 individuals. *Trichuris* ova occurred in ten, *Enterobius* ova in two and *Ascaris* ova in one. Although complement fixation tests were also made, there were no cases of *Fasciola hepatica* infection. R.T.L.

950—Zhurnal Nevropatologiya i Psikhatriya Imeni S.S. Korsakova. Moscow.

- *a. GURFINKEL, M. M. & TOROPOVA, M. N., 1954.—[Clinical aspects of cerebral cysticerciasis.] 54 (6), 572–578. [In Russian.]

951—Ziegenzüchter.

- *a. SPREHN, C., 1954.—“Über Wurmbefall bei Ziegen.” 45, 157–158.

952—Zoological Magazine. Tokyo.

- a. SAWADA, I., 1954.—[Morphological studies on the chicken tapeworm *Raillietina* (*Raillietina*) *echinobothrida*.] 63 (5), 200–203. [In Japanese: English summary p. 203.]

(952a) Sawada has made a study of the morphological characters of *Raillietina* (*R.*) *echinobothrida*. His illustrated description is accompanied by two tables of measurements. G.I.P.

953—Zoologické a Entomologické Listy.

- a. ERHARDOVÁ, B., 1954.—“Revise vývojových cyklů některých cizopasných červů u přežvýkavců.” 3 (2), 119–136. [German & Russian summaries p. 136.]
- b. DYK, V. & LUCKÝ, Z., 1954.—“Revise našich příslušníků čeledi Camallanidae.” 3 (3), 222–225. [Russian summary p. 225.]
- c. DYK, V., 1954.—“Dosavadní výsledky výzkumu cizopasníků moravskoslezských ryb.” 3 (4), 275–287. [German & Russian summaries p. 278.]
- d. ROMANOVSKÝ, A., 1954.—“Předběžná zpráva o hojném výskytu larev motolice *Diplostomum spathaceum* v našich rybách.” 3 (4), 298–300. [German & Russian summaries p. 300.]

(953a) The three larval stages, and their transitional phases, of some of the commonest helminths of ruminants, i.e. *Haemonchus contortus*, *Ostertagia circumcincta*, *Marshallagia marshalli*, *Nematodirus spathiger*, *Chabertia ovina*, *Strongyloides papillosus*, *Dictyocaulus viviparus* and *D. filaria* are described and figured in considerable detail. Earlier descriptions of these stages are revised. G.I.P.

(953b) *Camallanus truncatus* is reported for the first time for Czechoslovakia from the pike-perch in South Moravia. The authors give the differential characters of *C. lacustris*, *C. truncatus* and *C. volgensis*. G.I.P.

(953c) Since the opening in 1950 of a Parasitological Institute with a section for fish diseases, the parasites of fresh-water fish in Czechoslovakia and the dynamics of their diseases have been systematically studied. Until now 50 parasitic species including 28 helminths and three leeches have been registered for Moravia and Silesia. These are listed with their hosts, localities and the relevant references. G.I.P.

(953d) Larvae of *Diplostomum spathaceum* were found in 13 localities (rivers and ponds) at some distance from one another in Bohemia, Czechoslovakia, indicating a wide distribution of the parasite. The 12 fish species affected were *Rutilus rutilus*, *Leuciscus leuciscus*, *L. cephalus*, *Scardinius erythrophthalmus*, *Tinca tinca*, *Gobio gobio*, *Alburnus alburnus*, *Blicca bjoerkna*, *Abramis brama*, *Vimba vimba*, *Cyprinus carpio* and *Acerina cernua*. In the stream Výmole near Čelákovice the infection in *B. bjoerkna* and *A. brama* reached 100%. G.I.P.

954—Zooprofilassi.

- a. CERRUTI, C. & PEGREFFI, G., 1954.—“La lotta contro le malattie parassitarie.” 9 (10), 672–680.

(954a) Cerruti & Pegreffi discuss the importance of parasites in domestic animals and their eradication in Italy. They recommend hexachlorethane for cattle and carbon tetrachloride for sheep infected with *Fasciola hepatica*, phenothiazine for ruminants with gastro-intestinal strongyles and for poultry with ascarids and Heterakis, tracheal injections of iodine-iodate solutions against lungworms, copper sulphate solutions followed by a saline purge against tapeworms in ruminants and arecoline hydrobromide for *Echinococcus* in dogs. They advise getting rid of animals infected with *Dicrocoelium dendriticum* or schistosomes. M.MCK.

NON-PERIODICAL LITERATURE

- 955—*ANON., 1954.—“Phenothiazine-salt mixture controls internal parasites of sheep on pasture in long-time test.” Washington, D.C.: U.S. Agricultural Research Service, ARS 22–5, 5 pp.
- 956—AUDUREAU, F., 1954.—“Traitements par les voies extra-respiratoires de la bronchite vermineuse du veau.” Thesis, Alfort, 65 pp.

After a detailed historical review of the treatment of *Dictyocaulus* infections in cattle, Audureau annotates principles often ignored in the testing of drugs *in vivo* against lungworms, e.g. that the symptoms are not related always to the severity of infection, nor is their regression indicative of the efficacy of a drug; that tests should be made on heavily infected animals; that the faeces should be examined several times before treatment and several times afterwards,

daily or every other day; and that controls are necessary to verify spontaneous cure. He describes his unsuccessful experiments with intravenous injections of sodium thiodiphenylamine disulphonate and subcutaneous injections of carbon tetrachloride emulsified in oil. Administration of the latter, tracheally, produced an appreciable decrease in the number of larvae. Audureau concludes that prophylaxis is the only remedy for verminous bronchitis.

M.MCK.

957—*BACHMANN, G., 1954.—“Die Verbreitung der parasitären Haustierkrankungen im Landkreis Limburg.” Dissertation, Giessen, 32 pp.

958—BACKHOUSE, T. C. & WOODHILL, A. R., 1954.—“Mosquito-borne diseases. Filariasis. *Wuchereria bancrofti* from New Caledonia in relation to certain *scutellaris* group mosquitoes.” Noumea, New Caledonia: South Pacific Commission, Technical Information Circular No. 11, 9 pp. [Mimeographed.]

To test their potentialities as vectors of *Wuchereria bancrofti*, *Aedes scutellaris scutellaris*, *A.s. katherinensis*, *A.s. pseudoscutellaris* and *A. aegypti* were fed on an infected native of New Caledonia. When the mosquitoes were dissected 14 days later, complete development of the microfilariae had taken place only in *A.s. pseudoscutellaris*. In the other subspecies the larvae had been arrested at the first stage. One only out of 170 *Aedes aegypti* showed normally developing larvae approaching maturity on the 14th day.

R.T.L.

959—*BAUMGARTEN, K. C., 1954.—“Die Verbreitung der wirtschaftlich wichtigsten parasitären Tierkrankheiten im Stadt- und Landkreis Lüneburg.” Dissertation, Giessen, 35 pp.

960—*BEIB, F. J., 1954.—“Parasitäre Haustierkrankungen im Kreise Altenkirchen-Westerwald.” Dissertation, Giessen, 32 pp.

961—*BENBROOK, E. A., 1954.—“List of parasites of domesticated animals in North America.” Minneapolis: Burgess Publishing Co., 3rd edit., 67 pp.

962—*BLOCH, O., 1954.—“Das Vorkommen von Magen-Darm-Parasiten bei Rindern, Schafen, Ziegen und Pferden in zwei oberpfälzischen Landkreisen.” Dissertation, Munich, 105 pp.

963—*BOEV, S. N., 1954.—[Lungworms of ruminants in Kazakhstan.] Dissertation, Moscow. [In Russian.]

964—*BONDAREVA, V. I., 1954.—[Coenuriasis of sheep and measures for controlling it.] Alma-Ata: Kazakhscoe Gos. Izd-vo, 34 pp. [In Russian.]

965—*BRÜSE, P. W., 1954.—“Beitrag zur Verseuchung der Ziegen mit Magen-Darm-Würmern im Gebiet des Unterwesterwaldes und deren wirksame Bekämpfung.” Dissertation, Giessen, 69 pp.

966—*BURDZHANADZE, P. L., 1954.—[Survey of the principal helminth infestations of sheep in the Georgian SSR.] Dissertation, Moscow. [In Russian.]

967—*BUSCHKIEL, H. L. R., 1954.—“Untersuchungen über die Wirkung von Geschlechtshormonen auf den Befall mit parasitischen Nematoden.” Dissertation, Giessen, 31 pp.

968—*GAGARIN, V. G., IXANOV, K. I. & SOLOVEV, G. V., 1954.—[Dictyocaulus infestation of sheep and its control.] Frunze: Izd-vo Kirgiz. filiala Akademii Nauk SSSR, 40 pp. [In Russian.]

969—*GORLENKO, E. V. & SVESHNIKOVA, N. M., 1954.—[Nematode diseases of agricultural crops and measures for controlling them. Results of the 2nd All-Union Conference on nematodes.] Moscow: Gosudarstvennoe Izdatelstvo Selskokhozyaistvennoi Literaturi, 109 pp. [In Russian.]

970—*GORSHKOV, I. P., 1954.—[The principal helminths of the horse.] In: Lekarev, V. M., [Editor], [Infectious and invasive diseases of horses.] Moscow: Gosudarstvennoe Izdatelstvo Selskokhozyaistvennoi Literaturi, pp. 405-454. [In Russian.]

- 971—*HABERMANN, R. T., WILLIAMS, Jr., F. P. & THORP, W. T. S., 1954.—“Identification of some internal parasites of laboratory animals.” Washington, D.C.: U.S. Department of Health, Education and Welfare.
- 972—*HEIGL, R., 1954.—“Der Einfluss von schwachen elektrischen Wechselströmen auf die Entwicklung von Wurmeiern und -larven.” Dissertation, Munich, 35 pp.
- 973—HORTON-SMITH, C. & LONG, P. L., 1954.—“Preliminary observations on the physical conditions of built-up litter and their possible effects on the parasitic populations.” World's Poultry Congress (10th), Edinburgh, August 13–21, 1954. Report of Proceedings, Section C, pp. 266–272.
- 974—HOVORKA, J., 1954.—“Helmintologická diagnostika. I. Laboratórna diagnostika helmintóz.” Bratislava: Slovenská Akadémia Vied, 377 pp.
- 975—*HUNKEMÖLLER, J., 1954.—“Verbreitung parasitärer Tierkrankheiten im Stadt- und Landkreis Münster.” Dissertation, Giessen, 63 pp.
- 976—INTERNATIONAL CONGRESS OF TROPICAL MEDICINE AND MALARIA (5th), Istanbul, August 28 to September 4, 1953. Communications.
- BERBERIAN, D. A., DENNIS, E. W. & FREELE, H. W., 1954.—“Chemotherapy of experimental *Schistosoma mansoni* infection in Swiss mice.” Vol. 2, pp. 292–305.
 - BOYD, J. S. K., 1954.—“Chemotherapy of experimental schistosomiasis.” Vol. 2, pp. 306–308.
 - DAVIES, A. M. & ELIAKIM, M., 1954.—“Skin test and complement fixation test in schistosomiasis.” Vol. 2, pp. 309–310.
 - FRAGA DE AZEVEDO, J., CAMBOURNAC, F. & PINTO, A. R., 1954.—“Les bilharzioses dans les territoires portugais de l'Afrique (Guinée Portugaise, Angola et Mozambique).” Vol. 2, pp. 311–337.
 - FRAGA DE AZEVEDO, J., JANZ, C., PINTO G., FARO, M. & COLACO, A., 1954.—“Contribution à l'étude des altérations des fractions protéiques du sérum dans la bilharziose vésicale.” Vol. 2, pp. 338–341.
 - HALAWANI, A., 1954.—“Recent advances in the treatment of bilharziasis.” Vol. 2, pp. 342–357.
 - HOFFMAN, D. O., 1954.—“Chemical structure and molluscicide activity.” Vol. 2, pp. 358–373.
 - KUNTZ, R. E., MALAKATIS, G. M. & WELLS, W. H., 1954.—“Susceptibility of laboratory animals to infection by the Egyptian 'strain' of *Schistosoma mansoni*, with emphasis on the albino mouse.” Vol. 2, pp. 374–391.
 - SCHWETZ, J., 1954.—“Les rapports entre la bilharziose des rongeurs sauvages à *Sch. rodhaini* et la bilharziose intestinale humaine à *Sch. mansoni*.” Vol. 2, pp. 392–399.
 - SCHWETZ, J., 1954.—“Où en est-on avec la classification-nomenclature des mollusques centro-africains transmetteurs des bilharzioses humaines et animales?” Vol. 2, pp. 400–424.
 - TARIZZO, M. L., 1954.—“Schistosomiasis in Saudi Arabia.” Vol. 2, pp. 425–431.
 - GADGIL, R. K. & SHAH, S. N., 1954.—“Human schistosomiasis in India. Discovery of an endemic focus and a new snail host in Bombay State.” Vol. 2, p. 432.
 - WRIGHT, W. H., 1954.—“Chemical control of the molluscan intermediate hosts of the human schistosomes.” Vol. 2, pp. 433–438.
 - IBRAHIM, M. ET AL., 1954.—“How pulmonary bilharziosis modifies the picture of other forms of organic diseases. A clinico-radiological study of the cardio-vascular type of chronic pulmonary schistosomiasis alone and in presence of other organic heart diseases in Egypt.” Vol. 2, pp. 439–459.
 - DAVIES, A. M., 1954.—“Laboratory methods of diagnosis in Bilharzia.” Vol. 2, pp. 460–462. [Discussion pp. 462–464.]
 - HAWKING, F., 1954.—“Periodicity of microfilariae.” Vol. 2, pp. 561–564.
 - JACHOWSKI, Jr., L. A. & OTTO, G. F., 1954.—“Absence of true domestic transmission of the non-periodic form of *Wuchereria bancrofti* by *Aedes pseudoscutellaris*.” Vol. 2, pp. 565–568.
 - KESSEL, J. F., THOORIS, G., HEULS, J., BONNET, D. & BAMBRIDGE, B., 1954.—“Le contrôle de la filariose en Océanie Française.” Vol. 2, pp. 569–581.
 - CASTELLANI, A., 1954.—“Elephantiasis nostras (non-filarial elephantiasis) and elephantiasis tropica (elephantiasis filarica). Identity of their clinical symptomatology and similarity of their pathological and histo-pathological lesions.” Vol. 2, pp. 582–587.
 - MANSON-BAHR, P., 1954.—“Periodicity considered as a specific character in human filariasis.” Vol. 2, pp. 588–591.

- u. OTTO, G. F. & JACHOWSKI, Jr., L. A., 1954.—“Chemotherapy against the elephantoid-producing filariae.” Vol. 2, pp. 592–596.
- v. RACHOU, R. G. & DEANE, L. M., 1954.—“Human filariasis in Brazil. Present knowledge of their geographical distribution and transmission.” Vol. 2, pp. 597–609.
- w. DEJOU, L., 1954.—“Les lésions du cordon spermatique dans les filarioses (*Filaria bancrofti*, *loa*, *medinensis*).” Vol. 2, pp. 610–613.
- x. DEJOU, L., 1954.—“Les lésions lymphatiques de l'éléphantiasis (lymphangiectasies, lymphangites oblitérantes, lésions lymphatico-veineuses).” Vol. 2, pp. 614–616. [Discussion pp. 616–620.]

(976a) Berberian, Dennis & Freele describe the chemotherapeutic properties of four selected compounds which exhibited potentially useful degrees of activity with favourable therapeutic indices against *Schistosoma mansoni* infection in Swiss mice. Miracil-D was used as a reference drug. The four compounds were Win 2156, 1-(2-dibutylaminoethylamino)-4-methylthioxanthone hydrochloride, Win 3663, 7-chloro-1-[2-ethyl-(2-hydroxyethylamino)ethylamino]-4-methylthioxanthone hydrochloride, Win 4215, 7-chloro-1-[2-ethyl(2-hydroxypropylamino)ethylamino]-4-methylthioxanthone hydrochloride, Win 4304, 7-chloro-1-[2-ethyl-2(2-hydroxy-2-methylpropylamino)ethylamino]-4-methylthioxanthone hydrochloride. It is stated that the American Chemical Society nomenclature has been used, and that the 7-chloro designation would be 6-chloro in other systems of numbering. When evaluated on the basis of ED₅₀: LD₅₀ in Swiss mice infected with *S. mansoni*, Win 2156 had a Therapeutic Index of 11.5 and a miracil-D Index of 2.3. Win 3663 had a Therapeutic Index of 31 and a miracil-D Index of 6.0. Win 4215 had a Therapeutic Index of 43.5 and a miracil-D Index of 8.7. Win 4304 had a Therapeutic Index of 46.6 and a miracil-D Index of 9.3. Schistosomicidal activity was indicated by increase in number of and percentage of dead worms observed in treated mice as compared with the control group. A thioxanthone such as Win 3663 is more effective in killing schistosomes when given once weekly for 5–7 weeks than when the same dose is given daily for five consecutive days. Win 4304 was suggested to be the drug of choice for clinical trial. The acute side effects of miracil-D were not present and it may be suitable for intravenous as well as oral administration. An intravenous dose of 25 mg. per kg. was better tolerated than a 1.25 mg. per kg. dose of miracil-D, and the upper daily medication is more than 30 mg. per kg. for humans if given orally. The authors recommend that Win 3663 and Win 4304 be given careful clinical evaluation for the treatment of the types of schistosomiasis of humans.

D.L.H.R.

(976b) Boyd gives an account of observations on the chemotherapy of experimental schistosomiasis made by Standen at the Wellcome Laboratories. The development of the cercaria is described and an account is given of methods of screening drugs: egg counts and the portal shift. The portal shift method described by Schubert (1948) was modified as follows: animals are killed seven days after cessation of treatment instead of 14 days, so as to observe the full effect of the change in distribution of the worms. Boyd concludes that the absence of worms in the mesenteric veins and the presence of ensheathed worms in the liver of a mouse after treatment is sufficient to justify the value of an effective anthelmintic and all that remains to be discovered is whether non-toxic doses will produce the same results in man.

D.L.H.R.

(976c) Davies & Eliakim report that of the antigens used by them (Fairley type antigen, extracts of adult *Schistosoma mansoni* worms, antigen from *Fasciola hepatica*) for skin tests and complement fixation tests in Bilharzia, a saline extract of adult worms of *S. mansoni* gives the most specific and consistent results. They have found it to be more sensitive than rectal biopsy and egg hatching tests in the diagnosis of Bilharzia.

D.L.H.R.

(976d) In Mozambique, where schistosomiasis is wide-spread and seriously affects the population, *Schistosoma haematobium* predominates. *S. mansoni* is confined to focal areas. The molluscan vectors in this territory are discussed. In Portuguese Guinea only vesical schistosomiasis is found. Although fairly frequent along rivers in the northern half of the province it has little effect on the economic development. The local vector has not been

established. In Angola, vesical schistosomiasis occurs particularly in the north and less frequently in the east and south-west; rare cases of *S. mansoni* have been reported. Fraga de Azevedo *et al.* give charts and tables of blood pictures and egg outputs of infected persons and analyses of some local incidences of schistosomiasis and intestinal helminths. M.MCK.

(976e) The severity of *Schistosoma haematobium* infection in Africans was not found to be correlated with the red blood cell count, sedimentation rate or total protein content of the blood. Curiously, there was no relation between the γ -globulin and the sedimentation rate although generally a decrease in the albumin fraction of the plasma or an increase in the γ -globulin increases the speed of sedimentation. M.MCK.

(976f) Using the known drugs, Halawani investigated methods of combining economy with safety in the treatment of bilharziasis. Owing to the side effects four-day foudadin or five-day or ten-day tartar emetic courses could only be advised for bilharzia patients who were physically fit. Miracil-D hydrochloride in a dose of 22 mg. per kg. daily for 12 days in sugar-coated tablets gave an apparent cure in 70%–80% of cases; administering belladonna combined with the miracil proved best for minimising side effects. The side effects were also found to be considerably ameliorated if the drug was given immediately after meals. For excessive distress, whether of hepatic or cardiac origin or vomiting, 20 c.c. of 25% glucose should be administered intravenously. D.L.H.R.

(976g) Hoffman reports the results of screening 1,246 compounds for molluscicidal activity. Of these 251 were found to be active against *Biomphalaria boissyi* (*Planorbis boissyi*) at or below a concentration of 16 parts per million following exposure for 24 hours in clear canal water at 26°C. Sixty-seven compounds were still active at less than 4 p.p.m. [The original paper should be consulted for more detailed results.] D.L.H.R.

(976h) Kuntz, Malakatis & Wells studied the susceptibility of laboratory animals to infection by the Egyptian strain of *Schistosoma mansoni*. Cercariae were obtained from *Biomphalaria boissyi*. The white mouse was considered to be the most satisfactory but the return of moderately sized worms was greater from the hamster than from any of the white mice regardless of duration of infection or the number of cercariae to which the hosts were subjected. Cotton-rats were capable of withstanding a rather heavy parasite load. White rats and guinea-pigs were useless unless one is concerned with host defence or host resistance mechanisms. Rabbits and cats were not recommended. The infection of goats was poor but occasionally an individual dog showed partial compatibility. *Cercopithecus* monkeys were good hosts. Animals with poor infections showed varying degrees of compatibility which often graded into incompatibility. D.L.H.R.

(976i) Two new foci of *Schistosoma rodhaini* are Albertville on Lake Tanganyika, where the rodents *Dasymys bentleyi*, *Pelomys fallax* and rarely *Mastomys coucha* were found infected, and Sakania, a frontier post of Northern Rhodesia, where *D. bentleyi* was the host. In both localities *S. mansoni* prevails among the inhabitants. *Planorbis pfeifferi* and *P. tanganyikanus* from Sakania were shown to be transmitting *S. rodhaini* and *S. mansoni* simultaneously. A new schistosome, having a characteristic lateral spine on the egg was observed in wild rats along streams around Albertville. M.MCK.

(976j) Schwetz reviews some of the causes of the reigning confusion in the classification of the vectors of schistosomiasis in Africa. Stressing the necessity of understanding the varied appearances and sizes of snails under different conditions he urges a classification based primarily on the oecology. He criticizes at length the proposals of W.H.O. that malacologists, rather than experts on schistosomiasis and snail oecology, should resolve the confusion and should concentrate study on snail anatomy and oecology. M.MCK.

(976k) Tarizzo presents the data regarding schistosomiasis in Saudi Arabia collected from records of the Arabian American Oil Company, personal experience, and unpublished data of Abbott & Azim. 863 cases of *Schistosoma mansoni* and 51 cases of *S. haematobium*

were detected in company hospitals and clinics and 30 additional cases of *S. mansoni* were found in the Al Kharj area. *Planorbis boissyi* was found in Sulaimiya, Ain Thulaiyma and the Dilam area. *Bulinus forskali* was indicated by Azim as a possible vector in Hejaz and the presence of *B. truncatus* was reported by him in Safwa, Al Hasa province. This latter was not confirmed by the present author. The presumptive origin of *S. mansoni* and *S. haematobium* cases are given and the parasitic findings in 76,460 faecal examinations are listed. D.L.H.R.

(976l) [This is a brief report of the work by Gadgil & Shah. The full account was published in *Indian J. med. Sci.*, 1952, **6**, 760-763. For abstract see Helm. Abs., **21**, No. 689a.]

(976m) Wright records the results of screening approximately 2,500 molluscicides; four appeared to show promise. 2-cyclohexyl-4,6-dinitrophenol and its dicyclohexylamine salt were found effective for the destruction of *Oncomelania nosophora*. Sodium pentachlorophenate proved to be effective against *O. nosophora* in Japan, *Biomphalaria pfeifferi* and *Physopsis africana* in West Africa and *Australorbis glabratus* in Puerto Rico, Dominican Republic and Venezuela. Wright suggests that dinitrophenols inhibit oxidative phosphorylation of the snails. D.L.H.R.

(976n) Ibrahim *et al.* give an account of a clinico-radiological study of 45 bilharzial cases having cardio-vascular type of pulmonary bilharziasis alone and when associated with organic heart diseases. The effect of specific therapy was studied in some of the cases, as well as their possible effect when given frequently by mistake over a short time during the latent clinical period of the cardio-pulmonary affection. The cases were divided into five groups, the bilharzial group, the anaemic group, the rheumatic group, the arterio-sclerotic group and the congenital group. D.L.H.R.

(976o) Davies discusses the merits of the two main laboratory methods of diagnosis of Bilharzia, techniques for the recovery of eggs in the tissues or excretions of the body, and the detection of immunological response to infection. Davies considers that the skin test and complement fixation test alone enable the diagnosis to be made in the majority of infected cases, the skin test being the best for the purposes of mass survey and pin-pointing of endemic foci. Egg recovery methods, however, offer the most specific method of diagnosis. The types of antigens used and the merits of the skin test then formed the main basis of a general discussion. D.L.H.R.

(976p) [This work is described in greater detail in *Trans. roy. Soc. trop. Med. Hyg.*, **50**, 543-562. For abstract see Helm. Abs., **25**, No. 301c.]

(976q) Jachowski & Otto studied the transmission of the Samoan non-periodic form of *Wuchereria bancrofti* by *Aedes pseudoscutellaris* which prefer a bush environment. Although a larger percentage of mosquitoes found in the houses were infected than those from the bush this does not necessarily indicate that the risk of infection is greater in the houses because the density of mosquitoes is far greater in the bush. The mosquitoes are most active in the early morning or late afternoon and this is the time when the adult male Samoan is in the plantations and jungles. As would be expected, they reflect this exposure risk with much higher microfilaria and elephantiasis rates than the females. The immediate environment of the village constitutes a secondary hazard which acquires significance when the human habitation is intimately associated with dense undergrowth. Mosquito destruction in and near the village offers protection to the adult females and children but does not get to the heart of the problem. D.L.H.R.

(976r) Filariasis in Tahiti is being combatted by mass treatments with hetrazan [for abstract of report of this work see Helm. Abs., **22**, No. 296a]. Only 7% of those treated for one day, monthly, were positive 12-18 months after the beginning of treatment. The control of *Aedes polynesiensis* (*A. pseudoscutellaris*) is effected with preparations containing 5% D.D.T. inside houses and 2% D.D.T. for use outside houses and on bushes within a radius of 25m.

For an area of 1 room. around each house the bushes and any potential habitats or places harbouring mosquito larvae are said to be cleared. The mosquito populations and the microfilarial transmission rates were thus reduced. The microfilarial transmission rates are obtained by multiplying the number of mosquitoes, caught per minute, by the local incidence of mosquito infection. In Maiao, where 10.2% of the mosquitoes were infected out of 88 in 1949, 0.45% were infected out of 1,314 captured in 1953.

M.MCK

(976s) Castellani compares the symptomatology, pathology and histopathology of elephantiasis nostras (elephantiasis bacterica) and elephantiasis tropicalis (elephantiasis filarica).

D.L.H.R.

(976t) Manson-Bahr puts forward arguments which would appear ample and valid enough for the recognition of *Wuchereria pacifica* (the non-periodic filaria) as a distinct species. The main points are as follows: the new species *Aedes scutellaris polynesiensis* separated on anatomical grounds by Marks (1951) probably constitutes the main intermediary of the microfilaria in the Central Pacific. Immigrants harboured nocturnal microfilariae, the periodicity of which was maintained for years in Fiji. The non-periodic microfilariae do not develop fully in *Culex fatigans*. Buxton's line separates periodic from non-periodic filariae. Buckley has described *W. pacifica* as being about half the size of *W. bancrofti*. Finally there is the difference of the clinical manifestations.

D.L.H.R.

(976u) Otto & Jachowski studied the action of diethylcarbamazine and arsenamide against the non-periodic form of *Wuchereria bancrofti* in Samoa. Diethylcarbamazine was administered per os, one group receiving 2.0 mg. per kg. body-weight three times daily for seven days and 3.0 mg. per kg. daily for an additional 23 days. The other group received 3.0 mg. per kg. daily for varying durations of time. Diethylcarbamazine proved to be rapidly microfilaricidal in the initial doses but continued treatment appeared to be progressively less effective. The rapid destruction of the microfilariae produced a protein shock. The effect on the adult worms was not known. Arsenamide was very slowly microfilaricidal. This was administered intravenously in doses of 1.0 mg. per kg. daily for 15 days and protein shock did not occur. While there was no certainty that the adults of *Wuchereria bancrofti* were killed the available data from therapeutic trials and experiments in the laboratory suggest that such may be the case.

D.L.H.R.

(976x) Elephantiasis can arise: (i) secondarily to pre-existing varicose lymph vessels, (ii) from repeated inflammatory crises resulting in blockages of the vessels or (iii) secondarily to a combination of lymphatic and venous lesions. Antibiotic and anthelmintic treatment is recommended for the inflammatory crises. Bandaging avoids an increase in lymph blockages. Affected tissue can be removed. Venous trouble associated with elephantiasis will determine the treatment. In the discussion Friedheim noted that Kershaw has been able to obtain a cure and to kill adult *Litomosoides carinii* in cotton-rats with four daily doses of 0.125 gm. of TWSb per kg. body-weight given subcutaneously. Janssens reported a human death caused by degeneration of the brain due to *Loa loa*; curiously no eosinophil infiltration was observed. Bertram suspected that the thin and lethargic condition in cotton-rats, caused by superinfections of *Litomosoides carinii* in which microfilariae are absent from the blood, indicates that the imperfect adults are pathogenic. In man, *Acanthocheilonema perstans* may, by analogy, cause more debility than is generally conceded. Wright noted that Bayer 305 which has been used in over 300 cases of onchocerciasis in Venezuela kills both adult worms and microfilariae with few relapses.

M.MCK.

977—IYENGAR, M. O. T., 1954.—“Distribution of filariasis in the South Pacific region.” Noumea, New Caledonia: South Pacific Commission, Technical paper No. 66, vi+52 pp. [Mimeographed.]

Iyengar has assembled, from the literature, data on the incidence and distribution of filarial infection and of filarial elephantiasis, on the distribution of the periodic and non-periodic forms of *Wuchereria bancrofti* and on the vectors of filarial infection, so far reported for the southern Pacific Islands.

R.T.L.

- 978—*KÄMPFE, L., 1954.—“Die Anwendungsmöglichkeiten synthetischer Insektizide zur Bekämpfung von phytopathogenen Nematoden.” In: Eichler, W. [Editor], “Insektizide Heutzutage”. Berlin: Volk und Gesundheit, pp. 183–190.
- 979—*KLINCKE, H., 1954.—“Über die Einwirkung quaternärer Ammoniumverbindungen auf Wurmeier und -larven.” Dissertation, Munich, 49 pp.
- 980—*KÖBER, L., 1954.—“Die wichtigsten parasitären Erkrankungen unserer Haustiere im Kreis Alsfeld.” Dissertation, Giessen, 53 pp.
- 981—*LEHMANN, O. J. M., 1954.—“Der Gehalt des Memminger Abwassers an Eiern von Zoo-parasiten und deren Verhalten während des Klärprozesses.” Dissertation, Munich, 47 pp.
- 982—*LIDLE, H., 1954.—“Kritische veterinär-medizinische Betrachtung der landwirtschaftlichen Abwasserverwertung mit speziellen Untersuchungen über die Einwirkung verschiedener Drucke auf Wurmeier und Wurmlarven.” Dissertation, Munich, 35 pp.
- 983—*LOCHER, S., 1954.—“Die Widerstandsfähigkeit von Zooparasiteneiern und Larven gegen Gülle und Jauche.” Dissertation, Munich, 78 pp.
- 984—LUND, H. M. K., 1954.—“Nematodes, cestodes and coccidia found in 136 black grouse (*Lyrurus tetrix*) in Norway.” Oslo: Statens Viltundersøkelse, 42 pp.

From the black grouse, in Norway, Lund has collected *Ascaridia compar*, *Capillaria caudinflata*, *Heterakis* sp., *Subulura* sp., *Davainea tetraoensis*, *Hymenolepis microps*, *Railletina globocaudata*, *R. retusa* and *R. urogalli*.
R.T.L.

- 985—*ORLOV, I. V., AGRINSKI, N. I. & RIBALTOVSKI, O. V., 1954.—[Special methods of laboratory and clinical studies on veterinary parasitology.] Moscow: Gosudarstvennoe Izdatel'stvo Selskokhozyaistvennoe Literaturi, 171 pp. [In Russian.]
- 986—PESSÔA, S. B., 1954.—“Parasitologia médica.” Rio de Janeiro: Livraria Editoria Guanabara Koogan S.A., 4th edit., 1026 pp.
- 987—PIEKARSKI, G., 1954.—“Lehrbuch der Parasitologie unter besonderer Berücksichtigung der Parasiten des Menschen.” Berlin: Springer-Verlag, xii + 760 pp.
- 988—*POKUDIN, A. A., 1954.—[Blood sugar in Karakul sheep with fascioliasis.] Dissertation, Moscow. [In Russian.]
- 989—PROBLEMI VETERINARNOI DERMATOLOGII, ARAKHNOLOGII I ENTOMOLOGII [Report of the Soviet Conference on Problems of Veterinary Dermatology, Arachnology and Entomology], 1st (1954), 238 pp.
- a. PETROCHENKO, V. I., 1954.—[The role played by mites and insects in the epizootiology of helminth diseases.] pp. 22–23. [In Russian.]
- b. MOLEV, E. V., 1954.—[Oecology of mosquito vectors (*Culicoides*) of *Onchocerca* in horses.] pp. 205–209. [In Russian.]
- (989b) Of the fourteen species of *Culicoides* found in areas affected by equine onchocerciasis in the Moscow and Ivanovo regions, the most frequent were *C. pulicaris* (52%), *C. nubeculosus* (14%), *C. impunctatus* (11.3%) and *C. fascipennis* (11%). The habitats, seasonal abundance, periods of biting activity, development and control of these species are given.
G.I.P.
- 990—*REIFF, F., 1954.—“Der wirtschaftliche Nutzen der Lungen- und Magenwurmbehandlung beim Schaf.” Dissertation, Munich, 70 pp.

- 991—RÜHM, W., 1954.—“Die Nematoden als Kommensalen, Halbparasiten und Parasiten der Insekten.” In: Titschack, E. [Editor], “Deutscher Entomologentag in Hamburg”, July 30 to August 3, 1953. Jena: Gustav Fischer Verlag, pp. 168–184. [Discussion p. 184.]

Rühm discusses how nematodes first became adapted to insect hosts and describes the various types of relationships existing between the adults and larvae (and particularly dauer-larvae) of nematodes and the various insect groups. G.I.P.

- 992—*SCHULZE, W., 1954.—“Zur Anwendung der Kontaktinsektizide als Anthelmintika beim Hund.” In: Eichler, W., [Editor], “Insektizide Heutzutage”. Berlin: Volk und Gesundheit, pp. 239–243.

- 993—SKRYABIN, K. I., 1954.—[Trematodes of animals and man. Principles of trematodology. Volume IX.] Moscow: Izdatelstvo Akademii Nauk SSSR., 656 pp. [In Russian.]

This ninth volume deals with the systematics, morphology and biology of five trematode families, Opistholebetidae, Acanthocolpidae, Hemiuridae, Dinuridae and Lecithasteridae. The first two families are revised by Skryabin who acknowledges three subfamilies in Acanthocolpidae, viz., Acanthocolpinae, Pleorchiinae and Stephanostomatinae nom.nov. for Stephanochasminae Nicoll, 1910. In an historical note on *Stephanostomum* Looss, 1899 which Looss renamed *Stephanochasmus* in 1900 on account of the existence of *Stephanostoma* Danielsen & Koren, 1880, Skryabin follows Ward (1938) [and Dawes, 1946] in accepting *Stephanostomum* as a valid name nomenclaturally distinct from *Stephanostoma*. Yamaguti's *Stephanochasmus casus* (Linton, 1910) is named *Stephanostomum* sp. (Yamaguti, 1934) Skryabin, 1954. In 1949 Dubinina made *Macroderoides siluri* (nom. nud.) type and only species of a new genus *Paratormopsolus*, without defining either the genus or the species. Descriptions of both are now given for the first time [see however Helm. Abs., 23, No. 749b]. The new genus is distinguished from *Tormopsolus* by the presence of an external seminal vesicle in the genital bursa. The revision of hemiurids is done jointly with Gushanskaya. The order Hemiurata Markevich, 1951 is lowered to the rank of a suborder (=superfam. Hemiuroidea) and comprises 17 related families, including five new families, viz., Dinuridae, Lecithasteridae, Lecithochiriidae, Elytrophallidae and Lampritrematidae; the last three are to be discussed later in Volume X. Hemiuridae is subdivided into (i) Hemiurinae, characterized by two vitelline glands and a tail appendage, containing *Hemiurus*, *Anahemiurus*, *Glomeri-cirrus* and *Parahemiurus*, and (ii) Aphanurinae n.subf. with one vitelline gland and no tail appendage, containing *Aphanurus* and *Chauhanurus* n.g. made for *C. microrchis* (Chauhan, 1945) n.comb. *Hemiurus* is further subdivided into (i) *Hemiurus* n.subg. typified by a long tail appendage, the ventral sucker being larger than the oral one and cuticular annulation not reaching the end of the body (type *H. appendiculatus*), and (ii) *Metahemiurus* n.subg. typified by a very small tail appendage, the oral sucker larger than the ventral one and cuticular annulation covering the whole body (type *H. levinseni*). *Hemiurus* sp. Manter, 1934 is placed in *Parahemiurus* as *P. dogieli* n.sp. and *H. oatesi* as *P. oatesi* n.comb. Dinuridae n.fam. is subdivided into (i) Prosorchinae now containing *Prosorchis* and *Prosorchopsis* n.g. which is raised from subgeneric rank and contains *P. legendrei* (Dollfus, 1947) n.comb., (ii) Mecoderinae n.subf. made for *Mecoderus* transferred from Dinurinae, and (iii) Dinurinae which contains nine of its original genera and also *Pseudostomachicola* n.g. which is made for the new combinations *P. rubea* (Linton, 1910), *P. magna* (Manter, 1931) and *P. secunda* (Srivastava, 1939) and differs from *Stomachicola* in having the vitelline glands situated on the two sides of the body, and *Uterovesiculurus* n.g. made for Yamaguti's (1934) three species *U. hamati* n.comb., *U. par-lichthydis* n.comb. and *U. platycephali* n.comb. which differs from *Erilepturus* in having a distal uterine vesicle. *Elytrophallus* is transferred from Dinurinae to Elytrophallidae n.fam. Lecithasteridae n.fam. includes the type Lecithasterinae and five new subfamilies, viz., Musculovesiculinae with *Musculovesicula* transferred from Dinurinae, Lecithophyllinae with *Lecithophyllum*, *Apomurus* and *Hysterolecithoides*, Macradenininae with *Macradenina*, Hypohepaticolinae with *Hypohepaticola*, and Johniophyllinae with *Johniophyllum* n.g. made for *J. johnii* (Yamaguti, 1938) n.comb. The new combinations *Dichadena galeata* (Looss, 1907) and *Hysterolecitha vitellograndis* (Layman, 1930) are placed in the Lecithasterinae. G.I.P.

- 994—SKRYABIN, K. I., SHIKHOBALOVA, N. P. & SHULTS, R. S., 1954.—[Principles of nematology, edited by K. I. Skryabin. Vol. III. Trichostrongyloidea of animals and man.] Moscow: Izdatelstvo Akademii Nauk SSSR, 683 pp. [In Russian.]

Volume III covers the family Trichostrongylidae. [The remaining three families of Trichostrongyloidea are dealt with in Volume IV. For abstract see No. 995 below.] After an introductory discussion of their morphological, biological, oecological and geographical characteristics the species are then succinctly summarized under 15 subfamilies and 79 genera. There are 386 text figures (many containing several items). The bibliography occupies 21 pages.

R.T.L.

- 995—SKRYABIN, K. I., SHIKHOBALOVA, N. P. & SHULTS, R. S., 1954.—[Principles of nematology, edited by K. I. Skryabin. Vol. IV. Dictyocaulidae, Heligmosomatidae and Ollulanidae of animals.] Moscow: Izdatelstvo Akademii Nauk SSSR, 323 pp. [In Russian.]

This volume gives the systematics, morphology, biology where available, and the geography of Dictyocaulidae, Heligmosomatidae and Ollulanidae, including relevant references to the literature and 172 illustrations.

G.I.P.

- 996—SKRYABIN, K. I., SHIKHOBALOVA, N. P., SOBOLEV, A. A., PARAMONOV, A. A. & SUDARIKOV, V. E., 1954.—[Descriptive catalogue of parasitic nematodes. Vol. IV. Camallanata, Rhabditata, Tylenchata, Trichocephalata, Dioctophymata and a classification of parasitic nematodes under hosts.] Moscow: Izdatelstvo Akademii Nauk SSSR, 927 pp. [In Russian.]

In the first section of this the fourth and last volume of the Descriptive Catalogue, the suborders Trichocephalata and Dioctophymata are revised by Skryabin & Shikhobalova, Rhabditata and Tylenchata by Paramonov & Sobolev, and Camallanata by Sobolev. Because the name proposed by Skryabin & Shults in 1928 for the order Trichocephalata is the same as that of the suborder, Spasski here renames the order Trichocephalida nom.nov. and removes the trichocephalids from the Euoplida, where they were placed by Chitwood in 1933. Trichocephalata comprise two superfamilies, Trichocephaloidea Spasski, 1954 (nom.nov. for Trichuroidea) and Cystoospsioidea Saidov, 1953. In Capillariidae, *Capillostrongyloides* and *Aonchotheca* become synonyms of *Capillaria* and the following new combinations are made: *Capillaria zederi* (Freitas & Lent, 1935), *Eucolus freitaslenti* (Araujo & Granda, 1941), *E. oesophagicola* (Soltyis, 1952) and *Skrjabinocapillaria bakeri* (Mueller & Van Cleave, 1932). *Echinocoleus* and *Hepaticola* have become synonyms of *Thominx*. This genus contains 49 new combinations. In Dioctophymata, the second suborder of Trichocephalida, the type family Dioctophymidae has been subdivided into (i) Dioctophyminae n.subf. for *Dioctophyme* and *Mirandonema*, in which the vulva opens on a level with the oesophagus and which are parasites of mammals; and (ii) Hystrichinae n.subf. for *Hystrichis* and *Eustrongylides*, in which the vulva opens in the posterior end of the body and which are parasites of birds. In Rhabditata, *Steinernema* was discarded [in 1951] and its type *S. kraussei* transferred to *Oxysomatium*. Consequently Steinernematidae contained only *Neoaplectana* and was renamed Neoaplectanidae nom.nov. [see Sobolev, 1953] and so Steinerneminae became Neoaplectaninae Sobolev, 1954 [1953]. Two new genera are made in Diplogasteridae, *Allopidiogaster* n.g. for Sachs' (1950) two species *A. henrichae* n.comb. and *A. erlangensis* n.comb., and *Prosodontus* n.g. for Boven's (1937) two species *P. aphodii* n.comb. and *P. secundus* n.comb. Völk's (1950) *Diplogaster rarus* is transferred to *Prisionchus*, *D. linocerca* to *Eudiplogaster* and *D. stöckerti* to *Diplogasteritus*. Fuchs' (1915) *Rhabditis* (*Parasitorhabditis*) *obtusum* *amitini* becomes *Parasitorhabditis* sp. I and R. (P.) *obtusum* *curvedentis* becomes *Parasitorhabditis* sp. II. Camallanata includes *Camallanus hypophthalmichthys* Achmerov, 1954 and *Philometra claviceps* Achmerov, 1954 which are published here as new species for the first time. In the second section all the nematodes dealt with in the four volumes are classified under their hosts by Sudarikov and the volume ends with indexes of all the genera and species mentioned in the four volumes of this work.

G.I.P.

- 997—SOUTH PACIFIC COMMISSION, 1954.—“Annotated bibliography of filariasis and elephantiasis. Part I: Epidemiology of filariasis in the South Pacific region.” Noumea, New Caledonia: South Pacific Commission, Technical paper No. 65, vii + 63 pp. [Mimeographed.]
- 998—*TRAN-TU-HIEP, 1954.—“Valeur anthelminthique de la notézine.” Thesis, Hanoi.
- 999—*USTINOV, A. & LINNIK, G. N., 1954.—[Potato rot nematode.] Kharkov: Kharhovski Gosudarstvennyi Universitet Imeni A. M. Gorkogo, 53 pp. [In Russian.]
- 1000—*WAGNER, K., 1954.—“Die wirtschaftlich wichtigsten endoparasitären Erkrankungen des Rindes im Stadt- und Landkreis Giessen unter besonderer Berücksichtigung der Schlachtfunde.” Dissertation, Giessen, 27 pp.
- 1001—*WIRSCHING, H. J., 1954.—“Vergleichende histologische Untersuchungen über Veränderungen des Dünndarmes nach Applikation verschiedener Wurmmittel in der gebräuchlichen Dosierung.” Dissertation, Munich, 35 pp.

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NOTE

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In the Author Index there are no cross-references to show joint authorship, but authors of joint papers are listed individually. Thus, a paper by "Brown, B., Jones, A. & Smith, J." would have three separate entries, "Brown, B.", "Jones, A.", and "Smith, J."

In the Index of Subjects, alphabetization is under the first word (e.g. "*Acer* sp." before "*Acerina* sp."). Under the generic name of a helminth the following order is observed: papers on the genus as such; papers on undefined species; papers on new and defined species, e.g.

Capillaria
 — spp.
 — *aerophila*
 — *amarali* n.sp.

In cross-entries under names of hosts, the specific names of new species of helminths are omitted. Hosts are indexed under their scientific names, where given, except domesticated animals (e.g. cat, pig, sheep), crop plants (e.g. oats, rye, tobacco), and where numerous hosts of the same group are listed in the one paper (e.g. amphibians, birds, cereals, legumes, mammals).

Anthelmintics are listed alphabetically under that word, either by their trade name or by the active principle. There are no cross-references between proprietary drugs having the same or similar constituents and no classification of the drugs is attempted. They are also entered under the name of the parasite or disease and under the name of the host. For eelworms parasitic in or on plants they are entered alphabetically under *Nematicides* (*plant eelworm*) and under the name of the eelworm.

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CORRIGENDA

CORRIGENDA

*Serial
No.*

72a (Abstract)	Line 5 For "multiplex" read "nulliplex"
162a (Abstract)	Line 3 For "obesulus" read "obesula"
190a (Abstract)	Line 8 For "63cm." read "63 mm." [Author's correction on p. 236 in reprint]
216a (Abstract)	Line 11 For "also" read "not"
248a (Abstract)	Line 7 For "Overjsel" read "Overijssel"
274d (Abstract)	Line 2 For "Butaster" read "Butastur"
283 (Journal title)	For "Forsøksvirksomhed" read "Forsøgsvirksomhed"
320e (Abstract)	Line 11 For "melanostictus" read "melanosticus"
503q (Abstract)	Line 3 For "maraenesocis" read "muraenesocis"
563c (Abstract)	Line 2 For "lunata" read "lunatum"

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